CHAPTER 1

AIR TRAFFIC CONTROL OFFICER (ATCO)

FIGURE

TABLES

CHAPTER 1

AIR TRAFFIC CONTROL OFFICER (ATCO)

100. INTRODUCTION

1. The purpose of the Marine Aviation Training and Readiness (T&R) program is to provide the commander with standardized programs of instruction for all aviation personnel. The goal is to develop unit warfighting capabilities, not to measure the proficiency of individuals. Syllabi are based on specific performance standards designed to ensure proficiency in core competencies. An effective T&R program is the first step in providing the MAGTF commander with an Aviation Combat Element (ACE) capable of accomplishing any and all of its stated missions. The T&R program provides the fundamental tools for commanders to build and maintain unit combat readiness. Using these tools, training managers can construct and execute an effective training plan that supports the unit's mission essential tasks.

2. Unit training management is the application of the Marine Corps Training Principles and the Systems Approach to Training to satisfy the training requirements of commanders at all levels in order to accomplish their wartime mission. Guidance concerning unit training management and the process for establishing effective unit training management programs are contained in MCRP 3-0A, *Unit Training Management Guide*, and formed the basis for the development of this T&R Manual. Familiarity with MCRP 3-0A will enhance understanding of the Systems Approach to Training used in T&R development and Marine Corps UTM principles.

3. To maintain congruity in aviation and ground T&R programs, CG TECOM (C4610) is coordinating an update to the aviation unit evaluation mechanism. Efforts are underway to incorporate Collective Training Standards (CTS) into aviation T&R manuals. The goal of this effort is to replace MCCRES Mission Performance Standards (MPS) with T&R CTS and utilize the T&R as the unit evaluation mechanism. Like MPS, CTS are criteria that specify mission and functional area unit proficiency standards for combat, combat support, and combat service support units.

4. The effort to replace MCCRES MPS with T&R manual CTS is in the development phase. The concept is to create separate unit chapters in all aviation T&R manuals which contain unit CTS in the form of unit events. CTS will be derived and implemented into T&R manuals using existing unit MCCRES MPS as a baseline. Unit evaluation will be standardized in T&R manuals, not in a separate document. CG TECOM (C4610) plans to cancel unit MCCRES orders as respective unit CTS chapters are approved. Until unit T&R CTS are formally approved, MCCRES shall be utilized as the aviation unit evaluation standard.

101. CORE COMPETENCIES/SKILLS

1. Core competency serves as the foundation of the T&R program. Core competencies are those core capabilities and skills which support the Mission Essential Task List (METL) derived from MCWP 3-2 and T/O mission statements, which are realistically expected to be assigned in combat. Core competencies for Air Traffic Control (ATC) are listed in paragraph 101.3.

2. Mission. Marine Air Traffic Control (MATC) conducts operations in support of Marine Corps Air Stations (MCAS), Marine Air Ground Task Forces (MAGTF), joint and coalition operations, and integrates into the Marine Air Command and Control System (MACCS) and Integrated Air Defense System (IADS) whenever possible.

3. Mission Essential Tasks

a. Provide tower, radar/non-radar approach, departure, and en route air traffic control services within assigned airspace.

b. Provide precision and non-precision Navigational Aids (NAVAIDS) and Automatic Carrier Landing System (ACLS) approach services.

c. Integrate, display, and disseminate appropriate information to the designated Joint Forces Air Component Commander (JFACC), Airspace Control Authority (ACA), Area Air Defense Commander (AADC), and adjacent agencies such as the Tactical Air Command Center (TACC), Tactical Air Operation Center (TAOC), Direct Air Support Center (DASC), and Ground Based Air Defense (GBAD) units and coordinate the activation of the Base Defense Zone (BDZ) as part of the IADS.

d. Provide combat and civil airspace management, control, and surveillance.

e. Provide ATC liaison personnel to coordinate ATC related issues between the MACCS and national/international civil ATC systems.

f. Develop, implement, and validate radar and non-radar IFR Terminal Instrument Procedures (TERPS) for use at pre-established and expeditionary airfields and integrate required ATC services into the existing civil/military national/international ATC architectures.

g. Conduct amphibious/expeditionary operations to include the capability to phase control ashore.

h. Conduct MATC combat operations in a Nuclear, Biological, and Chemical (NBC) environment.

4. Detachment Core Capabilities

a. The core capable detachment establishes continuous all weather ATC services at one expeditionary airfield, with an echelon capability, or provides these services at a pre-established airfield. Additionally, the core capable detachment is able to provide mobile ATC services at two Forward Operating Bases (FOB). The detachment is able to provide ATC personnel to support MCASs in accordance with the Fleet Assistance Program (FAP).

b. Combat Crew

1 Watch Commander (WC)
1 Radar Watch Supervisor (RWS)
1 Radar Approach Control (APC)
1 Flight Data/Clearance Delivery Controller (RFD)
1 Data Link Coordinator (DLC)
2 Radar Final Controllers (RFC)
1 Tower Watch Supervisor (TWS)

1 Local Controller (TLC)
1 Ground Controller (TGC)
1 Flight Data Controller (TFD)

NOTE: Number of crews required is driven by airfield operational hours and national/international ATC regulations.

c. MATC Mobile Team Crew (MEU SOC)

1 ATC Officer
3 Controllers
1 NAVAID Technician
1 Communication Technician

NOTE: Denotes notional crew. Actual crew composition will be determined by mission assigned.

102. SUMMARY/INDEX OF LIVE/SIMULATED EVENTS

1. Combat Capable Stage. Performed at AC(A1) entry level school located at NATTC Pensacola, Florida.

2. Combat Readiness Stage. Table 1-1 contains a listing of the Combat Readiness training events and table 1-2 contains Combat Readiness knowledge based training events.

Table 1-1.--Combat Readiness Training Events.

EVENT	GOAL	Page #
FAM-211	Six functions of Marine aviation	1-30
FAM-212	Mission, task and organization of the MATC MMT	1-30
FAM-213	VHF/UHF/HF field radio equipment	1-30
FAM-214	Mission and organization of MATCD	1-31
FAM-215	MATCD equipment	1-31
FAM-216	Mission and organization of MACS	1-32
FAM-217	Mission and organization of MACCS	1-32
FAM-218	Capabilities and vulnerabilities of MACCS radars	1-33
FAM-219	Basic knowledge of data links	1-33
FAM-220	TBMCS and HMI	1-33
SYS-250	Operate fixed radar equipment	1-34
SYS-251	Operate fixed control tower equipment	1-35
SYS-252	MATCD equipment characteristics	1-35
SYS-253	MATCD communications assets and capabilities	1-36
SYS-254	Utilize the AN/TSQ-131 for basic operations	1-36
SYS-255	Standard data link symbology	1-37
SYS-256	Operate the AN/TSQ-120 Expeditionary Control Tower	1-37
SYS-257	Observe MACCS agencies	1-38
SYS-258	Operate the AN/TSQ-216 Remote Landing Site Tower	1-38
SIM-260	Control simulated precision/surveillance approaches with the AN/TSQ-131	1-39
OPS-270	Perform duties of a RFC	1-39

EVENT	GOAL	Page #
OPS-271	Perform duties of a TGC	1-40
OPS-272	Perform encrypted communications	1-40
CK-280	Qualify as a RFC	1-41
CK-281	Qualify as a TGC	1-41

Table 1-2.--Combat Readiness Knowledge Training Events.

EVENT	GOAL	Page #
KFAM-200	General knowledge of airfield layout	A-3
KFAM-201	General ATC knowledge	A-5
KFAM-202	Local area/Airfield specific knowledge	A-5
KFAM-203	Emergency/Safety knowledge	A-6
KFAM-204	Weather knowledge	A-6
KFAM-205	Tower Equipment	A-6
KFAM-206	Airfield lighting	A-7
KFAM-207	Strip marking	A-7
KFAM-208	Radar equipment	A-7
KFAM-209	Flight schedule knowledge	A-8
KFAM-210	Aircraft accident/incident reporting knowledge	A-8
KRFC-230	RFC phraseology/communication knowledge	A-8
KRFC-231	RFC clearance/coordination knowledge	A-9
KRFC-232	RFC separation knowledge	A-9
KRFC-233	RFC LOA and facility directives/memos/ publications	A-10
KTGC-240	TGC phraseology/communication knowledge	A-10
KTGC-241	TGC clearance/coordination knowledge	A-10
KTGC-242	TGC separation knowledge	A-11
KTGC-243	TGC LOA and facility directives/memos/ publications	A-11

3. Combat Qualification Stage. Table 1-3 contains a listing of the Combat Qualification training events.

Table 1-3.--Combat Qualification Training Events.

EVENT	GOAL	Page #
FAM-300	MATCD LOA/SOP/Timeshare/FAP agreements	1-42
FAM-301	Site selection for the MATCD	1-42
FAM-302	FOBs supported by MMT's	1-43
FAM-303	Flight inspection/certification	1-43
FAM-304	Introduce TERPS	1-44
FAM-305	ATO/ACO/ACP/OPTASKLINK/SPINS	1-44
FAM-306	Electronic Warfare	1-44
FAM-307	Data link theory	1-45
FAM-308	MACCS TADIL interoperability	1-45
FAM-309	OPDAT message preparation and use	1-46
FAM-310	Phasing control ashore	1-46
FAM-311	FAA considerations	1-46
FAM-312	ICAO considerations	1-47
FAM-313	TBMCS Airspace Deconfliction System (ADS)	1-47

EVENT	GOAL	Page #
FAM-314	JAOC	1-47
FAM-315	Embarkation of ATC equipment	1-48
FAM-316	Capabilities of VMU	1-48
SYS-320	Configure the AN/TSQ-131 for advance operations	1-49
SYS-321	TBMCS ACO development	1-50
SIM-330	ATC services ISO of FOB	1-50
SIM-331	Communications planning	1-51
SIM-332	MATCD operations in an NBC environment	1-51
OPS-340	ATC tactical crew brief	1-51
OPS-341	Flight inspection/certification preparation	1-52
OPS-342	Perform as FWO/WC	1-52
OPS-343	MATCALS Electronic Protection (EP) measures	1-53
OPS-344	Perform as an MMT Leader	1-53
OPS-345	MMT OIC for MACG MEU(SOC) Detachment	1-54
OPS-346	Plan and employ a Base Defense Zone	1-54
OPS-347	Conduct TADIL-B and -C operations	1-54
QUAL-390	Qualify as an MMT Leader	1-55
DESG-391	Perform as a FWO/WC	1-55
DESG-392	Perform as an ATCFO	1-56

4. Full Combat Qualification Stage. Table 1-4 contains a listing of the Full Combat Qualification training events.

Table 1-4.--Full Combat Qualification Training Events.

EVENT	GOAL	Page #
FAM-400	C2 USMC TACAIR in joint operations	1-56
FAM-401	C2W	1-57
FAM-402	Civil and combat airspace management	1-57
FAM-403	ARM countermeasures	1-57
FAM-404	JTAO interface	1-58
FAM-405	TADIL operations	1-58
FAM-406	Knowledge of TACS	1-59
FAM-407	AEACS	1-60
FAM-408	AADCS	1-60
FAM-409	Special information systems aircraft	1-61
FAM-410	TBMCS advance planning	1-61
SIM-430	Integrated combat airspace and control	1-62
SIM-431	MATCD planning problem	1-63
SIM-432	MISTEX	1-64
SIM-433	RAS	1-64
OPS-440	Develop an instrument approach	1-65
OPS-441	EMCON/RADCON	1-66
OPS-442	ATC liaison officer	1-66
OPS-443	ACE planning staff member	1-67
OPS-444	Theater missile and air defense planning	1-67
OPS-445	Joint combat airspace doctrine	1-67
OPS-446	ATO cycle	1-68
OPS-447	ACP for joint combat operations	1-69

EVENT	GOAL	Page #
OPS-448	ACO for joint combat operations	1-69
OPS-449	Operate in a TACC	1-70

5. Instructor Qualification Stage. Table 1-5 contains a listing of the Instructor Qualification events.

Table 1-5.--Instructor Qualification Events.

EVENT	GOAL	Page #
DESG-500	Be designated as an MMT Leader Instructor.	1-70
QUAL-501	Qualify as a WTI.	1-70

6. Operator Core Skills. Core skills are depicted in table 1-6 and directly support the METL for each unit. Core skills shall be a determining factor in developing T&R training requirements. Special skills and training requirements must receive appropriate prioritization and emphasis based on the training need, and the likelihood of those types of missions being assigned during operations.

Table 1-6.--Core Skills and Special Skills Matrix.

CORE SKILLS						SPECIAL SKILLS				
METL	FAM	SYS	SIM	OPS	CK	FAM	SYS	SIM	OPS	QUAL
A	200-215, 300-303, 305, 306, 311, 312, 316	250-254, 256, 320	260, 330	270, 271, 340-345	280, 281	401, 410		430-432	441, 444, 446, 448	470
B	211-215, 300, 301, 303, 305, 306, 311, 312	250, 252-254, 320	260, 330	270, 340-345	280	402, 410		430-432	441, 444, 446, 448	470
C	211-220, 300, 301, 305, 306, 308, 309, 311-314	252-255, 257, 320, 321	330, 331	272, 340, 344-347		400, 401, 403-411	420	430-432	441, 443-449	470

CORE SKILLS						SPECIAL SKILLS				
METL	**FAM**	**SYS**	**SIM**	**OPS**	**CK**	**FAM**	**SYS**	**SIM**	**OPS**	**QUAL**
D	214, 215, 300, 301, 303, 305, 306, 311-314, 316	250, 253, 320, 321	330	340-345		400, 402, 404-410	420	430-432	441, 443-448	470
E	214, 300, 301, 311, 312, 316		330	342		402		431, 432	442, 443	470
F	214, 300, 301, 303-305			340, 341, 343, 344, 346-348				430-432	440, 441, 444	470
G	211, 214, 300, 301, 302, 310, 315	257	330, 331	340, 342, 344-347		400		430-433	444	470
H	214, 300, 301, 302		330, 332	340, 344, 346, 347				430-432		470

NOTE: Knowledge based events are listed in Appendix A and have no CRP value. Instructor qualification stage falls under METLS A through H.

103. UNIT TRAINING POLICIES

1. The unit's training program emphasizes qualifications and the overall combat readiness of the unit. Individual training serves as the building block for overall unit readiness. However, unit training will never be compromised for the training of a select, few individuals. Squadron and battalion commanding officers will ensure that this training philosophy is implemented. Unit training must predominate, and squadrons must tailor their training plans to ensure unit combat readiness.

2. The training of Marines to perform as an integral aviation unit in combat lies at the heart of the T&R program. Unit readiness and individual readiness are directly related. Individual training and the mastery of individual core skills serve as the building blocks for unit combat readiness. A Marine's ability to perform those critical skills required in combat is essential.

3. Commanders shall ensure that all tactical training is conducted to a MCCRES standard. The MCCRES, as outlined in MCO P3501.1, is the unit training standard, and all syllabus events shall be tailored to meet MCCRES requirements. Commanders at all levels are responsible for effective aviation training. The conduct of training in a professional manner consistent with Marine Corps standards cannot be over emphasized.

4. Commanders must be cognizant of the numerous factors affecting unit training on a daily basis. Factors all commanders must address include, but are not limited to:

a. Efficiency. Time and resources expended are measurements of training efficiency. Commanders must ensure that all training increases combat readiness. Unit personnel shall thoroughly plan and effectively execute training to maximize the return on their time and effort.

b. Individual Differences. Commanders must recognize the differences inherent in each individual and should mold flexible training programs to accommodate those differences.

c. Decentralization of Training. The lowest echelon possible shall be responsible for conducting training. Each senior level of command must monitor subordinate commands to ensure safe and efficient training requirements.

5. Commanders shall provide personnel the opportunities to attend formal and operational level courses of instruction as required by this Manual. Attendance at all formal courses must enhance the warfighting capabilities of the unit.

6. Risk Management. Operational Risk Management (ORM) is a process to aid commanders in accomplishing their missions while protecting the force. Commanders, leaders, maintainers, planners and schedulers should integrate risk assessment in the decision making process and implement hazard controls to eliminate risk or reduce it to an acceptable level.

7. MACCS Integrated System Training. All elements of the MACCS shall maintain the capability to effectively function as part of an integrated airspace command and control system. In that large exercises may not always offer sufficient training opportunity for all crew members, and in many cases do not offer sufficient latitude to refine capability upon arrival, the MACCS should conduct MACCS Integrated System Training Exercises (MISTEX) on a regular basis to qualify units and personnel per their respective T&R syllabus. MISTEXs should focus on the establishment of necessary communications and datalinks between MACCS agencies, and incorporate sufficient simulation and Marine Simulation Events List (MSEL) items to exercise and analyze system integration, crew coordination, and critical information flow wherever possible. Tactical Digital Information Link (TADIL) capable agencies should conduct frequent "Link" training exercises to maintain proficiency.

104. ATC OFFICER TRAINING PROGRESSION PHILOSOPHY

1. Air Traffic Control Officer (ATCO) training is unique amongst other MACCS officer training because of the requirement to function in tactical and civilian ATC environments simultaneously, whether assigned to a Marine Air

Traffic Control Detachment (MATCD) or MCAS. The ATCO provides Marine aviation the requisite interface required to conduct wartime operations and peacetime training exercises, integrating seamlessly into the U.S. National Airspace System (NAS) or a sovereign nation's airspace. The extensive training and qualification requirements which controllers are required to meet, under both Federal Aviation Administration (FAA) and international regulations, ensures the ability of Marine aviation to operate safely and legally anywhere in the world.

2. ATC officer training utilizes a building block approach. At the entry level school (100-level), the officer is taught ATC regulations, procedures, and operating techniques. Basic skills required by the officer are taught using state of the art simulation and intensive classroom instruction. Upon completion of the MOS school, the officer possesses the same certification obtained by FAA controllers graduating from the National FAA Air Traffic Control School. This training enables the controller to understand and apply ATC rules and regulations, qualify and perform functions of a controller in the MATCD or MCAS. This training also introduces the officer to ATC concepts, doctrine and capabilities.

3. At the 200-level, the officer applies the skills and information obtained at the 100-level while assigned to an MCAS. The initial individual core skills are learned and mastered in this level. Basic ATC skills are learned using a mix of live aircraft and simulation. Training progresses incrementally and includes introduction to the MATCD equipment, the MACCS, and the Marine Air Traffic Control Mobile Team (MMT). This phase culminates with the officer achieving Naval Air Training and Operating Procedures Standardization (NATOPS) qualification as a Radar Final Controller and Tower Ground Controller.

4. At the 300-level, the officer is introduced to MACCS integration, the functions and capabilities MATC brings to the system, and to advanced ATC and airspace management concepts. The ATC officer will gain experience within the MACCS by serving with the MATCD supporting Marine Air Ground Task Force (MAGTF) doctrine. Operational planning, logistics, and embarkation considerations are introduced. The officer qualifies as an MMT Leader, serves as an MATCD WC, and an MATC FWO.

5. At the 400-level, the ATC officer is exposed to advanced MACCS integration and employment of the MATCD equipment within a joint environment. The officer serves in a Marine Air Control Group (MACG) detachment on a Marine Expeditionary Unit (MEU), as an MACCS airspace management liaison for the MAGTF, and with joint/coalition forces, Federal Aviation Administration (FAA), and International Civil Aviation Organization (ICAO), where the officer develops contingency plans and operations. The officer gains experience as an ATCFO, MATCD commander, and a MACG MEU detachment OIC.

6. At the 500-level of training, the ATC officer is exposed to graduate level Marine Aviation Command and Control curriculum at the Weapons Tactics Instructors Course. Upon completion, the officer is designated as a Weapons and Tactics Instructor and is given the secondary MOS of 7277.

105. TRAINING PROGRESSION MODEL FOR ATCO

1. The Officer Progression Model for the ATCO is depicted in figure 1-1. This model depicts the **logical progression of qualifications** within a unit.

The Combat Capable Phase is achieved at the completion of initial MOS entry level school.

2. The Combat Ready Phase should take the officer who has completed initial MOS skills training and make the officer proficient in core competencies. With successful completion of the Combat Ready Phase, unit personnel move to the Combat Qualification Phase.

3. The Combat Qualification Phase is that portion of the model that produces combat leaders and fully qualified members. The personnel that are being trained in the Combat Qualification phase are those Marines a commanding officer feels are capable of directing the actions of subordinates during wartime scenarios.

4. The Full Combat Qualification Phase contains special skills and qualifications. These skills or qualifications are not prerequisite to combat qualification or the ability to function as combat leaders, but are those for which a certain number of trained individuals or crews must be maintained to accomplish special missions or tasks.

ATCO Progression Model

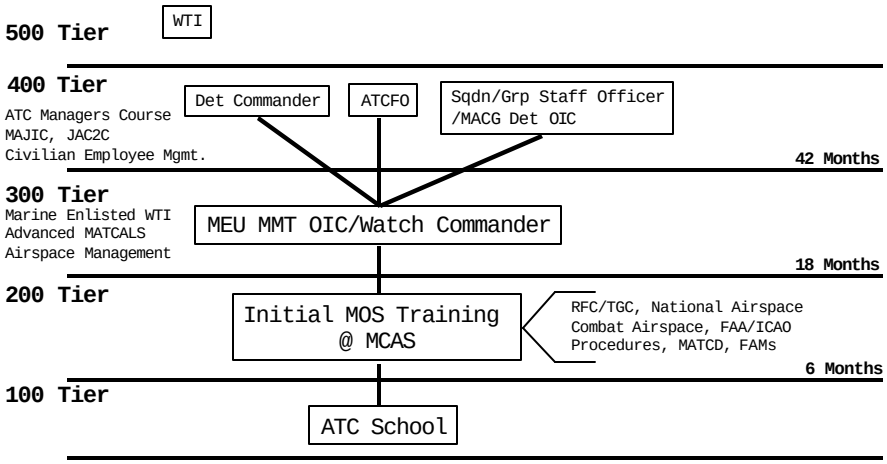

Figure 1-1.--Air Traffic Control Officer Progression Model.

5. The training progression model provides training officers with a valuable tool to develop training plans. With a clear progression of qualifications delineated, and an emphasis on the qualification of Combat Capable and Combat Ready personnel, training officers have the ability to produce viable training plans. Units will use the model as a point of departure to generate weekly, monthly, quarterly and annual training plans.

106. PROGRAM OF INSTRUCTION (POI) FOR ATC OFFICERS

1. Basic or Transition ATC Officer

WEEKS	COURSE/PHASE	ACTIVITY
1-16	Combat Capable Training	NATTC
17-68	Combat Ready Training	MACS/MCAS
69-182	Combat Qualification Training	MACS/MCAS

WEEKS	COURSE/PHASE	ACTIVITY
183-260	Full Combat Qualification Training	MACS/MCAS

2. Refresher ATC Officer

WEEKS	COURSE/PHASE	ACTIVITY
1-26	Combat Ready Training	MACS/MCAS
27-130	Combat Qualification Training	MACS/MCAS
131-218	Full Combat Qualification Training	MACS/MCAS

107. SPECIAL DESIGNATIONS

1. ATC Officer Qualification. An ATCO is given a secondary MOS of 7277 upon completion of WTI. A copy of the graduation certificate shall be placed in the individual MACCS performance record.

WEEKS	COURSE/PHASE	ACTIVITY
6	WTI	MAWTS-1

110. GROUND/ACADEMIC TRAINING

1. Academic training shall be conducted for each phase/stage of the syllabus. Commanders are strongly encouraged to incorporate the lectures in table 1-7 into their training plans. Where indicated, standardized academic training materials exist and may be obtained from the activity listed as the sponsor.

Table 1-7.--Recommended T&R Lectures.

LECTURE CODE	LECTURE TITLE	SPONSOR
	200-Level: Combat Ready Training	
A-01*	MAGTF Organization	MCCES
A-02*	MACCS Organization	MCCES
	The Six Functions of Marine Aviation	
A-03*	Control of Aircraft & Missiles	MAWTS-1
A-04*	Offensive Air Support	MAWTS-1
A-05*	Assault Support	MAWTS-1
A-06*	Electronic Warfare	MAWTS-1
A-07*	Aerial Reconnaissance	MAWTS-1
A-08*	Anti-Air Warfare	MAWTS-1
A-09*	Air Tasking Order/Special Instructions	MCCES
A-10*	MACCS Training Management	Local MACG
A-11*	MACCS Reference Material	MCCES
A-12*	Local AOR Contingencies & OP PLANS	Local MACG
A-13*	ROE Overview	Local MACG
A-14*	MACCS Communications	MAWTS-1
A-15*	TBMCS Overview	MAWTS-1
A-16*	Data Link Symbology	Local MACG
A-17*	Manual Crosstell Procedures	Local MACG
A-18*	Encryption & Authentication Procedures	MCCES

LECTURE CODE	LECTURE TITLE	SPONSOR
A-19*	COMSEC & Crypto Handling	MCCES
	300-Level: Combat Qualified Training	
B-01*	Missile and UAV Threat to the MAGTF	MAWTS-1
B-02*	Fixed Wing Threat to the MAGTF	MAWTS-1
B-03*	Rotary Wing Threat to the MAGTF	MAWTS-1
B-04*	REC Threat	MAWTS-1
B-05*	Armor Threat to the MAGTF	MAWTS-1
B-06*	AOR Specific Threat & OP PLANS	Local MACG
	MACCS Agencies	
B-07*	TACC	MAWTS-1
B-08*	TAOC	MAWTS-1
B-09*	DASC	MAWTS-1
B-10*	ATC Detachment	MAWTS-1
B-11*	LAAD Bn	MAWTS-1
B-13*	MWCS	MAWTS-1
B-14*	AC2W-ISR	MAWTS-1
B-15*	Multi TADIL Network	MAWTS-1
B-16*	USMC Aviation Ordnance	MCCES
B-17*	Phasing Control Ashore	MAWTS-1
B-18*	Airspace Planning/Management (Combat Airspace)	Local MACG
B-19*	Tanker Management	MAWTS-1
B-20*	Armed Reconnaissance	MAWTS-1
B-21*	UAV Overview	MAWTS-1
B-22*	Link Architecture & Procedures	Local MACG
B-23*	Introduction to Personnel Recovery	MAWTS-1
B-24*	NEO Execution	MAWTS-1
B-25*	Execution Checklist	MAWTS-1
	400-Level: Full Combat Qualified Training	
C-01*	Integrated Combat Airspace Command & Control ($ICAC^2$)	Local MACG MAWTS-1
C-02*	Joint Air Operations	MAWTS-1
C-03*	TBM and CM Defense	MAWTS-1
C-04*	JTAO Procedures	MCCES
C-05*	Law of War and ROE	MAWTS-1
C-06*	SIS Aircraft	MAWTS-1

(*) The lecture code is standardized throughout all MACCS related syllabi, and is used to link the ATRIMS software to a specific T&R event within this syllabus. Lecture codes may not be listed sequentially.

2. Academic training listed in table 1-8 is recommended for personnel assigned to the ATC MOS.

Table 1-8.--ATC Academic Syllabus.

COURSE / CLASS TITLE	SPONSOR
Air Traffic Controller (ACA1)	NATTC
Combat Capable MACCS Familiarization Course	NATTC
Combat Ready MACCS Familiarization Course	MACS/MCAS
Combat Qualification MACCS Familiarization Course	MACS/MCAS
MAWTS-1 Tactical Data Systems within the MACCS Course	MACS/MCAS
Introduction to Amphibious Embarkation	MCI 04.7
Fixed Wing Embarkation	MCI 04.11
Antenna Construction and Propagation of Radio Waves	MCI 25.15
Communications for the FMF Marine	MCI 25.20
Communications Security	MCI 25.25
VHF (FM) Field Radio Equipment	MCI 25.30
HF/UHF Field Radio Equipment	MCI 25.30
Chemical Warfare Defense	MCI 57.6
Nuclear Warfare Defense	MCI 57.7
Amphibious Warfare School Non-resident Program	MCI 8500

3. External academic courses of instruction available to complete the syllabus are listed below:

COURSE	ACTIVITY
Joint Aerospace Command and Control Course (JAC2C)	C2WS
Military Airspace Management Course	KEESLER, AFB
Advanced MATCALS Operator's Course	NATTC
MATCD Mobile Team Leaders Course	MAWTS-1
ATC Management Course	NATTC
Multi-TADIL Joint Interoperability Course	JMTS
Weapons and Tactics Instructor Course	MAWTS-1
Civilian Employee Management	HRO

111. TRAINING REFERENCES

1. Tables 1-9 through 1-15 provide training references which shall be utilized to ensure safe and standardized training procedures, performance steps, grading criteria, and equipment operation.

Table 1-9.--FAA Training References.

FAA	
MANUAL/ORDER	**TITLE**
FAA 7110.65	Air Traffic Control Manual
FAA 7110.10	Flight Services
FAA 7210.3	Facility Operation and Administration
FAA 7400.8	Special Use Airspace
FAA 7220.1	Certification and Rating Procedures
FAA 7340.1	Contractions
FAR 91	General Operating and Flight Rules
	Aeronautical Information Manual (AIM)
	IFR Supplement
	VFR Supplement
	Low Altitude United States

FAA	
MANUAL/ORDER	**TITLE**
	High Altitude United States
FAA Handbook OAP 8200.1	U.S. Standard Flight Inspection Manual
	Notices to Airmen (NOTAM)
AP1 A	Area Planning for North and South America
AP1 B	Military Training Routes for North and South America
	Local Sectional
DOC-4444/501	ICAO Rules of the Air and ATC Service
	Airfield Operations Manual (AOM)
	Facility Manual (FACMAN)
	Daily Flight Schedule
	RATCF DAIR Operator's Manual
	Facility Directives
	Letters of Agreement
	Facility Memorandums
	Facility Forms
	Pilot Controller Handbook (PCH)

Table 1-10.--Navy Training References.

NAVY	
MANUAL/ORDER	**TITLE**
SECNAVINST 5216.5C	Memorandum of Agreement
OPNAVINST 5510.1	Department of the Navy Information and Personnel Security Program Regulation
OPNAVINST 3770.2	Airspace Procedures Manual
OPNAVINST 3722.16	U.S. Standard Flight Inspection Manual
NAVAIR 00-80T-114	ATC Facilities Manual
NAVAIR 00-80T-115	Expeditionary Airfields
NAVAIR 51-50AAA-2	Airfield Markings

Table 1-11.--Marine Corps Training References.

MARINE CORPS	
MANUAL/ORDER	**TITLE**
MCDP 6	Command and Control
MCWP 3-2	Aviation Operations
MCWP 3-22	Anti-Air Warfare
MCWP 3-22.2	SEAD
MCWP 3-23	OAS
MCWP 3-24	Assault Operations
MCWP 3-25	Control of Aircraft and Missiles
MCWP 3-25A	Multi-Service Procedures for JATC
MCWP 3-25B	Multi-Service Brevity Codes
MCWP 3-25C	Introduction to TADIL-J
MCWP 3-25D	Integrated Combat Airspace Command and Control
MCWP 3-25.3	MACCS Handbook
MCWP 3-25.4	TACC Handbook
MCWP 3-25.5	DASC Handbook
MCWP 3-25.7	TAOC Handbook
MCWP 3-25.8	MATCD Handbook

MARINE CORPS	
MANUAL/ORDER	**TITLE**
MCWP 3-25.9	MACCS Communications Handbook
MCWP 3-11.2	Marine Rifle Squad
MCWP 3-11.3	Scouting and Patrolling
MCWP 3-11.4	Helicopterborne Operations
MCWP 3-11.4A	Helicopter Insert/Extraction
MCWP 3-17	Engineer Operations
MCWP 3-31.5	Ship to Shore Movement
MCWP 3-33	Military Operations Other Than War (MOOTW)
MCRP 3-33A	Counter-Guerilla Operations
MCWP 3-33.2	Civil Disturbance
MCWP 3-33.6	Humanitarian Assistance Operations
MCWP 3-36	Command and Control Warfare
MCWP 3-36.1	Electronic Warfare
MCWP 3-37	MAGTF NBC Defense Handbook
MCWP 3-37A	NBC Field Handbook
MCWP 3-37.5	NBC Defense of Fixed Sites, Ports, and Airfields
MCWP 6-2	MAGTF C-2
MCWP 6-22	Communications and Information Systems
MCWP 6-22A	Talk II SINCGARS
MCRP 6-22D	Field Antenna Handbook
MCRP 3-02E	Individual Guide to Terrorism
MCWP 5-1	Marine Corps Planning Process
MCWP 5-11	MAGTF Aviation Planning
MCWP 5-11.1A	Aviation Planning Documents
MCO 1510.28A	Marine Air Traffic Control (ATC) and ATC Maintenance Personnel Training, Qualification, and Proficiency Records
MCO 3501.9B	Marine Corps Combat Readiness Evaluation System (MCCRES)
MCO 5600.20	Marine Corps War Fighting Publication System
ATO/ACO	Air Tasking Order/Air Control Order
CMS-1	Communications Security Material System Manual
ACP	Aviation Campaign Plan
SPINS	Special Instructions

Table 1-12.--Maintenance Training References.

MAINTENANCE	
MANUAL/ORDER	**TITLE**
	MATCALS Controller Handbook
TM 2000 Series	HMMWV and Tactical Quiet Generator
TM 119-MA-OMI-010	Part II Expeditionary Control Tower Equipment Basic Course SA2257TSQ-120
	MATCALS System Operation Manual
	MATCALS Operator's Handbook

Table 1-13.--MAWTS-1 Training References.

MAWTS-1	
MANUAL/ORDER	**TITLE**
	MAWTS Course Catalog
	MAWTS-1 ASP

MAWTS-1	
MANUAL/ORDER	**TITLE**
	MAWTS-1 SOP
	MAWTS-1 MACCS Reference Guide

Table 1-14.--MCI Training References.

MCI COURSES	
MCI	**TITLE**
25.30	VHF (FM) Field Radio Equipment
25.32	HF/UHF Radio Equipment

Table 1-15.--Joint Multi-Service and Allied Publications Training References.

JOINT MULTI-SERVICE AND ALLIED PUBS	
MANUAL/ORDER	**TITLE**
Joint Pub 1	Joint Warfare of the US Armed Forces
Joint Pub 1-02	DOD Dictionary of Military and Associated Terms, March 1994
Joint Pub 0-2	Unified Action Armed Forces
Joint Pub 3-0	Doctrine for Joint Operations
Joint Pub 3-01-2	Joint Doctrine for Theater Counter Air/Air Defense
Joint Pub 3-01-3	Air Defense from Overseas Land Areas
Joint Pub 3-01.5	Doctrine for Joint Theater Missile Defense
Joint Pub 3-52	Doctrine for Joint Airspace Control in a Combat Zone
Joint Pub 3-56.1	Command and Control for Joint Air Operations/Service Operations
Joint Pub 3-56-23	Air Control/Air Defense Procedures
Joint Pub 3-56.24	Tactical Command and Control Planning Guidance and Procedures for Joint Operations
Joint Pub 5-03.1	Joint Operations Planning and Execution System
Module 1	Introduction to the JTAO Interface, JTAO CBT Modules
Module 2	Introduction to TADIL Operations, JTAO CBT Modules
Module 4	Introduction to Naval Warfare, JTAO CBT Modules
Module 5	NTDS and ATDS, JTAO CBT Modules
Module 6	Ground Elements of the Theater Air Control System (TACS), JTAO CBT Modules
Module 7	Airborne Elements of the Air Control System (AEACS), JTAO CBT Modules
Module 8	Army Air Defense Command and Control System (AADCCS), JTAO CBT Modules
Module 9	Service and Joint Communications Systems in the JTAO Interface, JTAO CBT Modules
	TBMCS Operator/Technician Course Advance Sheets
	ADS Software User's Manual (SUM)
	Operator Familiarization Course Training Materials for the Advanced Planning System (APS)
	Air Operations Center, ACCI 13, 1 Feb 95
	Air Combat Command (ACC) C4I Systems Guide, Vol I, HQ ACC/SC, 24 Dec 1994
	A History of the Contingency Theater Automated Planning System (CTAPS), Part One, Background, HQ TAC, Jan 91

JOINT MULTI-SERVICE AND ALLIED PUBS	
MANUAL/ORDER	**TITLE**
	Software User's Manual (SUM) for the Human-Machine-Interface (HMI) of the Theater Battle Management Core System (TBMCS), Version 5.1, 31 Jan 97
	Air Combat Command Computer Systems Squadron, Langley Air Force Base, VA 23665-2091
ACCI 13-1OC	Air Operations Center
ACCR 55-44	Theater Air Control System Modular Control System
AFM 2-1	Tactical Air Operations, Counter Air, Close Air Support and Air Interdiction
FM 44-100	U.S. Army Air Defense Operations
FM 44-100-2	Air Defense Reference Handbook
FM 44-85	Patriot Battalion and Battery Operations
FM 44-63	FAADS/SHORAD Operations, Jane's Land Based Air Defense
FM 100-103	Army Airspace Command and Control in a Combat Zone
Joint Pub 3.0	Operations, September 1993 Air Combat Command Instruction 13, February 1995
	ICAC2 Multi-service Procedures for Integrating Airspace Command and Control in the Combat Zone
ATP-40	Doctrine for Airspace Control in Times of Crisis and War

120. LIVE/SIMULATOR EVENT TRAINING

1. Combat Capable Training

STAGE	EVENTS	HOURS	PERCENT
ACA1 SCHOOL NATTC PENSACOLA	27	580.0	60.00%

2. Combat Ready Stage of Training

STAGE	EVENTS	HOURS	PERCENT
FAMILIARIZATION	10	24.0	3.00%
SYSTEMS	9	154.0	4.80%
SIMULATIONS	1	10.0	0.70%
OPERATIONS	3	62.0	1.50%
CHECK	2	4.0	5.00%
COMBAT READY TOTALS:	25	254.0	15.00%

3. Combat Qualification Stage of Training

STAGE	EVENTS	HOURS	PERCENT
FAMILIARIZATION	17	45.0	8.50%
SYSTEMS	2	22.0	1.50%
SIMULATION	3	48.0	3.00%
OPERATIONS	8	72.0	7.00%
QUALIFICATION	3	48.0	0.0%
COMBAT QUALIFICATION TOTALS:	33	235.0	20.00%

4. Full Combat Qualification Stage of Training

STAGE	EVENTS	HOURS	PERCENT
FAMILIARIZATION	11	30.0	1.10%
SIMULATIONS	4	50.0	0.80%
OPERATIONS	10	474.0	3.10%
FULL COMBAT QUALIFICATION TOTALS:	25	554.0	5.00%

5. Instructor Stage of Training

STAGE	EVENTS	HOURS	PERCENT
MMT LEADER INSTRUCTOR	1	240.0	0.00%
WTI	1	400.0	0.00%

6. Special Skills Stage of Training

STAGE	EVENTS	HOURS	PERCENT
MMT Leader Designation	1	N/A	0.00%
FWO/WC Designations	1	N/A	0.00%
ATCFO Designation	1	N/A	0.00%

130. LIVE/SIMULATOR EVENT PERFORMANCE REQUIREMENTS

1. General. The majority of the Air Traffic Control Officer syllabus is ground training and requires in-depth integration within the MACCS. Likewise, development of MAGTF training involving extensive integration with applicable elements of the MAGTF is mandatory in the development of a Combat Qualified ATCO. Training not conducted in the live training environment shall be replaced with simulation where applicable as indicated in the condition code.

a. Live Training. Training event condition codes listed as **L** (live) in this syllabus designate training to be conducted without the aid of simulator devices. Radar Final Control (RFC) and Tower Ground Control (TGC) certification shall be obtained at a MCAS.

b. Simulator Training. Training event condition codes listed as **S** (simulator), **L/S** (live preferred/simulator optional), and **S/L** (simulator preferred/live optional) in this syllabus designate training to be conducted on the 15G33, 15G20, or MATCALS simulator.

2. Prior Qualification. ATC officers who have been previously qualified, but have been out of the MOS for 24 months or longer will be required to complete the Refresher program of instruction.

3. Syllabus Assignment. Basic and Transition ATC officers are required to complete the entire syllabus. Refresher ATC officers will complete those syllabus requirements designated **R** in the syllabus description.

4. Minimum Performance Time for Syllabus "Write-Off"/Designations. Personnel may receive credit for successful completion of any syllabus requirement (except qualifications) upon either a written, oral, or practical demonstration of proficiency, at the commanding officer's discretion.

Completion of 70% of any syllabus requirement (except qualifications) may be "written-off" as complete at the discretion of the designated evaluator. Qualifications require a completed performance evaluation, and the designation signed by the commanding officer.

5. Evaluation of Training. Evaluation of those portions of the syllabus which are academic in nature will be conducted by either written/oral examination or a combination of the two means. Operational and system related subjects will be evaluated by practical application means whenever possible. Performance evaluation to qualify for mission qualifications and designations will be conducted per T&R Manual, Administrative, and the standardized evaluation forms located in the Appendix C to this syllabus.

131. COMPONENTS OF A T&R EVENT

1. General. An event contained within a T&R manual is an individual or collective training standard and contains seven or eight components, dependent on the level in which they are contained:

1/	2/	3/	4/	5/	6/	
OPS-XXX	0.5	T,C,R,Z,E		EQUIP	L/S	(NS)

Goal. The title of a unit of work which needs to be done in the performance of a Marine's duties. It is a clearly stated performance-oriented action requiring learned skills and knowledge, i.e., Engage a rotary winged aircraft.

Requirement. The condition(s) set for the real-world or combat circumstances in which the tasks are to be performed. They indicate what is provided (equipment, tools, materials, manuals, aids, etc.), environmental constraints or conditions under which the task is performed, and any specific cues or indicators to which the performer must respond. When resources or safety requirements limit the conditions, this should be stated.

Performance Standards. The performance standard indicates the basis for judging the effectiveness of the performance. It consists of a carefully worded statement which identifies the proficiency level expected when the task is performed. It is not guidance, it is inviolate. Performance standards are specified in terms of accuracy, speed, sequencing, quality of performance, adherence to procedural guidelines, etc.

Performance Steps. *Listed for 100-level T&R events only.* Performance steps are the actions or decisions required to fulfill proficiency established by the standard. The major performance steps which are required to perform the task to proficiency are listed in the order of performance. Minor steps are not listed.

Prerequisite. Provides a listing of academic training or other T&R events which must be completed prior to satisfying the task.

Reference. Listing of doctrinal or reference publications which may assist the trainee in satisfying the performance standards,

or the trainer in evaluating the effectiveness of task completion.

Ordnance. A listing of ordnance types and quantities required to satisfy the task.

External Syllabus Support. A listing or description of the external support requirements which may be required to satisfy completion of the task. May include range requirements, support aircraft, targets, training devices, or other personnel and equipment.

NOTES:

1/ Events are coded per Appendix B of T&R Manual, Administrative.

2/ Projected Event Duration is furnished as a planning tool.

3/ Denotes the applicable Program of Instruction (Basic POI is understood). POI Codes: **T** = transition; **C** = conversion; **R** = refresher; **Z** = reserve.

4/ An "E" indicates an Evaluated event.

5/ The equipment or activity sub-category is not used in the ATC syllabus.

6/ Condition Code: **L** = live training; **S** = simulator training; **L/S** = live preferred/simulator optional; **S/L** = simulator preferred/live optional; **N** = Night; **NS** = Night Vision Device; Where contained within **( )** denotes optional conditions.

132. COMBAT CAPABLE TRAINING

1. Purpose. To develop the basic knowledge of air traffic control rules, procedures and operations. Completion of this formal course of instruction, AC(A1) School at Naval Air Technical Training Center (NATTC) Pensacola, Florida is mandatory to satisfy this requirement. The 100-level (Combat Capable training) does not require refly. Upon completion of this portion of the training syllabus the individual is 60% trained in MATC operations and is Combat Capable.

a. Prerequisites

- Appropriate Medical certificate.
- 18 years old upon completion of course.
- GT 105.
- US Citizenship.

b. Classroom and Simulator Event Training (27 Events, 580 Hours)

FAM-100 34.0

Goal. Introduce weather as applied to ATC.

Requirement. Describe aviation weather to include:

(1) Basic weather characteristics.
(2) Weather hazards.

(3) Aviation weather observations.
(4) Aviation weather forecasts.
(5) Weather advisories.
(6) Weather observing programs.
(7) Aviation sequence reports.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. AC 00-6A, AC 00-45C, and NAVMETOCCOMINST 3141.2.

FAM-101 24.0

Goal. Introduce airspace, navigation, and time as applied in ATC.

Requirement. Describe the National Airspace System (NAS), time conversions, and basic navigation.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65, NAVAIR 00-80V-49, and Airman's Information Manual (AIM).

FAM-102 3.0

Goal. Introduce Special Use Airspace (SUA) used by the military.

Requirement. Describe SUA and controller responsibilities within each.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65 and AIM.

FAM-103 23.0

Goal. Introduce Navigational Aids (NAVAIDS).

Requirement. Describe basic radio theory and NAVAIDS.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65, NAVAIR 00-80T-112, Navy Electricity and Electronics training Series (NEETS), and AIM.

FAM-104 24.0

Goal. Introduce charts and publications used in ATC.

Requirement. Given aeronautical charts and publications, locate information and complete statements in accordance with the Flight Information Publications (FLIP) program.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. General Planning (GP) section of the Department of Defense (DOD) FLIP program.

FAM-105 8.0

Goal. Introduce communications as applied in ATC.

Requirement. Describe communication procedures used in ATC.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65 and AIM.

FAM-106 18.0

Goal. Introduce airport design and ATC equipment.

Requirement. Describe airport design and ATC equipment.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. Advisory Circular 150/5070-6A, NAVFAC P-80, NAVAIR 51-50AAA-2, NAVAIR 00-80T-114, NAVAIR 00-80R-14, and AIM.

FAM-107 24.0

Goal. Introduce general ATC procedures.

Requirement. Describe general ATC procedures to include:

(1) General control.
(2) Weather information.
(3) Federal Aviation Regulation (FAR) Part 91.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65 and FAR Part 91.

FAM-108 32.0

Goal. Introduce ATC terminal procedures.

Requirement. Select statements that describe general ATC procedures used in a terminal environment.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65.

FAM-109 10.0

Goal. Introduce emergencies and special handling.

Requirement. Describe handling of emergency aircraft and special situations in a control tower environment.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65.

FAM-110 16.0

Goal. Introduce non-radar procedures.

Requirement. Describe general non-radar procedures as applied in ATC.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65.

FAM-111 16.0

Goal. Pass the Airmen’s Written Test (AWT).

Requirement. Conduct a thorough review of all information taught in FAM-100 through FAM-110.

Performance Standards. Pass the AWT with a minimum passing score of 70%.

Reference. FAR Part 65.

FAM-112 18.0

Goal. Control tower indoctrination.

Requirement. Describe the different operating positions in a control tower and the individual responsibilities of each.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65, Navy Millington Facility Manual, and NAVAIR 00-80T-114.

FAM-113 10.0

Goal. Introduce basic radar knowledge.

Requirement. Describe the different operating positions in a radar facility, define basic radar theory, and identify associated equipment.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. NAVAIR 00-80T-114.

FAM-114 26.0

Goal. Introduce basic radar services provided by ATC.

Requirement. Describe basic radar services and procedures set by ATC.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65.

FAM-115 14.0

Goal. Introduce Airport Surveillance Radar (ASR).

Requirement. Describe terms and procedures used by an ASR Final Controller.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65 and Navy Millington Facility Manual.

FAM-116 12.0

Goal. Introduce Precision Approach Radar (PAR).

Requirement. Describe terms and procedures used by a PAR Final Controller.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65 and Navy Millington Facility Manual.

FAM-117 22.0

Goal. Introduce arrival control.

Requirement. Describe terms and procedures used by an Arrival Controller.

Performance Standards. Pass a written test with a minimum passing score of 70%.

Reference. FAA 7110.65 and Navy Millington Facility Manual.

FAM-118 4.0

Goal. Introduce the Marine Air Traffic Control and Landing System (MATCALS).

Requirement. Describe the components and basic operation of the MATCALS, to include:

(1) AN/TPS-73 Air Traffic Control Subsystem (ATCS).
(2) AN/TPN-22 Automatic Landing System (ALS).
(3) AN/TSQ-131 Control and Communication Subsystem (CCS).

Performance Standards. Execute the following functions:

(1) Load FOC software into MMD via Magnetic Tape Unit (MTU).
(2) Load FOC software into MMD via Serial Data Bus (SDB).
(3) Set up an MMD for surveillance usage (ADC).
(4) Set up an MMD for a Final Controller (FC) Trainee.
(5) Set up a Final Control (FC) simulation scenario.
(6) Set up a Arrival Control (ADC) simulation scenario.

Reference. MATCALS Standard Operations Manual

SYS-120 4.0

Goal. Introduce the CCS equipment.

Requirement. Identify and describe the equipment found in the CCS, to include:

(1) Processor Display Set (PDS).
(2) Cartridge Magnetic Tape Unit (CMTU).
(3) Line Printer.
(4) Wind Indicator.
(5) TADIL-B modem.
(6) Digitizer Switching Set (DSS).
(7) Control and Distribution Set (CDS).
(8) Radios.
(9) Intercom.
(10) Telephones.
(11) TADIL-C.
(12) TADIL-B.

Performance Standards. The trainee will identify equipment listed above by visual sight with a minimum 70% accuracy rate.

Prerequisite. FAM-118.

SIM-130 32.0

Goal. Introduce basic tower operations.

Requirement. Observe and begin to apply basic tower operations in a Static Lab.

Performance Standards. Utilizing proper phraseology and tower procedures, the trainee will demonstrate the proficiency to progress to the Tower Operator Training System (TOTS).

Prerequisite. FAM-112.

SIM-131 76.0

Goal. Perform as a control tower operator.

Requirement. Using the 15G32 Tower Operator Training System (TOTS), perform as the following:

(1) Flight Data Operator in accordance with FAA 7110.65 and applicable instructions while observing all safety precautions.
(2) Ground Control Operator in accordance with FAA 7110.65 and applicable instructions while observing all safety precautions.
(3) Local Control Operator in accordance with FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum passing score of 70% on each operating position.

Prerequisite. SIM-130.

SIM-132 34.0

Goal. Perform as an ASR Final Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform the duties of an ASR Final Controller in accordance with FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum passing score of 70%.

Prerequisite. FAM-115.

SIM-133 34.0

Goal. Perform as a PAR Final Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform the duties of a PAR Final Controller in accordance with FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum passing score of 70%.

Prerequisite. FAM-116.

SIM-134 16.0

Goal. Identify and vector an aircraft.

Requirement. Utilizing the 15G31 voice-recognition training device, identify and vector an aircraft through a series of corridors.

Performance Standards. An aircraft shall be vectored from its initial position to the approach gate without touching the sides of the corridors or the airspace boundary.

Prerequisite. FAM-117.

SIM-135 37.0

Goal. Perform as an Arrival Controller.

Requirement. Utilizing the 15G31 voice-recognition training device, perform the duties of an Arrival Controller in accordance with FAA 7110.65 and applicable instructions while observing all safety precautions.

Performance Standards. Pass a performance test with a minimum passing score of 70%.

Prerequisite. FAM-134.

SIM-136 9.0

Goal. Perform as a MATCALS basic equipment operator.

Requirement. Perform the functions of a MATCALS basic equipment operator while operating in all modes of operation, while observing safety precautions to include:

(1) Arrival departure Control (ADC) Mode.
(2) Final Control (FC) Mode.
(3) Training Modes.

Performance Standards. Pass a performance test with a minimum passing score of 70%.

Prerequisite. SYS-120.

133. COMBAT READY TRAINING

1. Purpose. To develop proficiency in ATC tower and radar operations. Upon completion of this portion of the training syllabus, the officer is 75% trained in MATC operations and is Combat Ready. Syllabus requirements are designated as Familiarization (FAM), System (SYS), Simulation (SIM), Operations (OPS), and Check (CK).

a. Prerequisite. Successfully complete the 100-level of this syllabus.

b. Academic Training. In addition to MAWTS ASP lessons located in table 1-5, some events require the controller to be familiar with knowledge syllabus references located in Appendix A of this syllabus. All knowledge syllabus events must be covered in an oral or written exam. The minimum passing score is 80%.

c. Live and Simulator Event Training (24 Events, 252 Hours)

2. Familiarization Training (10 Events, 24 Hours)

FAM-211 2.0 T,R L Z

Goal. Introduce the six functions of Marine aviation.

Requirement. Describe the six functions of Marine aviation, to include:

(1) AAW.
(2) OAS.
(3) Assault support.
(4) Electronic warfare.
(5) Reconnaissance.
(6) Control of aircraft and missiles.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. Lecture A-01 through A-08.

Reference. MCWP 3-25.3 and MAWTS-1 ASP.

FAM-212 2.0 T,R L Z

Goal. Introduce the mission, tasks, and organization of the MATC Mobile Team (MMT).

Requirement. State the mission, tasks, and organization of the MMT, to include:

(1) Mission of the MMT.
(2) Personnel and equipment requirements.
(3) Site set up and tear down.
(4) Site insertion/extraction.
(5) Planning requirements.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. MMT SOP and MCWP 3-25.8.

FAM-213 5.0 T,R L/S Z

Goal. Introduce VHF/UHF/HF field radio and associated equipment.

Requirement. Identify the capabilities of VHF/UHF/HF field radio and associated equipment to include:

(1) AN/PRC-104 HF.
(2) AN/PRC-113 UHF/VHF (AM).

(3) AN/PRC-119 SINCGARS VHF (FM).
(4) AN/GRC-171 (V) (Tower).
(5) AN/GRC-171 (V) (TADIL-C).
(6) AN/GRC-211.
(7) AN/URC-94 (V).
(8) AN/VRC-82.
(9) KG-84C.
(10) KY-58 and 99.
(11) KIR-1C.
(12) KY-75.
(13) KYK-13.
(14) KOI-18.
(15) ARC-210.
(16) CYZ-10.
(17) AN/PRC-117F.
(18) AN/PRC-138.
(19) KY-99.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. MCWP 6-22, MAWTS-1 ASP, MCI 25.30, and MCI 25.32.

FAM-214 2.0 T,R L Z

Goal. Introduce the mission, tasks, and organization of the MATCD.

Requirement. Introduce the mission, tasks, and organization of the MATCD to include:

(1) Mission of the MATCD.
(2) Relationship of the MATCD to the Marine Air Control Squadron (MACS).
(4) Relationship of the MATCD to the MACCS.
(5) MAGTF employment capability of a MATCD as applied to:
    (a) Marine Expeditionary Force.
    (b) Marine Expeditionary Brigade.
    (c) Marine Expeditionary Unit.
(6) Special Purpose MAGTF.
(7) Site set-up and tear down.
(8) Insertion and extraction.
(9) The three operational sections of a MATCD.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. MAWTS-1 ASP, NAVAIR 00-80T-115, and MCWP 3-25.8.

FAM-215 3.0 T,R L Z

Goal. Introduce the MATCD equipment.

Requirement. Describe the capabilities of all MATCD equipment to include:

(1) AN/HD-1099, Air Conditioner.
(2) AN/MEP-006A, 60 kW, 60Hz, Generator with Loadbank.

(3) AN/MEP-531 Generator.
(4) VM-1503 Mobilizer.
(5) 9503 Mobilizer.
(6) M1022 Mobilizer.
(7) M998, HMMWV.
(8) SM-170, Maintenance Vans.
(9) AN/TPN-30A, Marine Remote Area Approach Landing System.
(10) AN/TPS-73, Air Traffic Control Subsystem.
(11) AN/TPN-22, All-weather Landing Subsystem.
(12) AN/TSQ-131, Control and Communication Subsystem.
(13) AN/TRN-44, TACAN.
(14) AN/TSQ-216, Remote Landing Site Tower.
(15) AN/TSQ-120, Expeditionary Control Tower.
(16) AN/TRC-195, Mobile Control Tower.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. TM 2000 series, MAWTS-1 MACCS Reference Guide, and MCWP 3-25.8.

FAM-216 2.0 T,R L Z

Goal. Introduce the mission, tasks, and organization of the MACS.

Requirement. State the mission, tasks, and organization of the MACS to include:

(1) TAOC Detachment.
(2) EW/C Detachment.
(3) MATCD.
(4) MAGTF's MACS employment options as applicable:
    (a) Marine Expeditionary Force.
    (b) Marine Expeditionary Brigade.
    (c) Marine Expeditionary Unit.
    (d) Special Purpose MAGTF.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. MAWTS-1 MACCS Reference Guide, MAWTS-1 ASP, and MCWP 3-25.3.

FAM-217 2.0 T,R L Z

Goal. Introduce the role, mission, and organization of the MACCS.

Requirement. State the role, mission, and organization of the MACCS, to include:

(1) The fundamental mission, combat force structure and organization.
(2) The basic air control/air defense operational agencies, their missions and organization within the MACCS.
(3) The roles, functions, ranks, job titles and chain of command of key decision-making personnel in the TACC, TAOC, DASC, and MATCD.

(4) Capabilities, functions and configurations of the MACCS agencies:
(a) Tactical Air Command Center (TACC).
(b) Tactical Air Operations Center (TAOC).
(c) Sector Anti-Air Warfare Center (SAAWC).
(d) Early Warning Control Site (EW/C).
(e) Direct Air Support Center (DASC).
(f) Marine Air Traffic Control Detachment (MATCD).
(5) Identify the mission and capabilities of LAAD Bn, MWCS, and VMU.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. Lecture A-02 and A-11.

Reference. MCWP 3-25.3 through MCWP 3-25.8, MAWTS-1 ASP, and MAWTS-1 MACCS Reference Guide.

FAM-218 2.0 T,R L Z

Goal. State the capabilities and vulnerabilities of MACS radars.

Requirement. State the capabilities and vulnerabilities of MACS radars to include:

(1) MACS radar systems.
(2) Frequency band width.
(3) ECCM.
(4) Range and altitude of each radar.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. Basic Radar Principles (#10031) MAWTS-1 ASP, MCWP 3-25.7, and MCWP 3-25.8.

FAM-219 2.0 T,R L Z

Goal. Introduction to basic Tactical Digital Information Link (TADIL).

Requirement. State basic TADIL knowledge to include:

(1) Definition of TADIL.
(2) Identify existing TADILs.
(3) TADILs utilized by the Marine Corps.
(4) TADILs utilized by the MATCD.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. MAWTS-1 ASP.

FAM-220 2.0 T,R L Z

Goal. Introduce the Theater Battle Management Corps System (TBMCS) and the Human Machine Interface (HMI).

Requirement. Describe TBMCS and the Human Machine Interface (HMI) to include:

(1) Role of TBMCS as a tool for command and control.
(2) Purpose of TBMCS mission applications used within the Joint Air Operation Center (JAOC) and/or the TACC.
(3) Flow of data within TBMCS applications to produce the Air Tasking Order.
(4) TBMCS contribution to joint interoperability.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. Air Combat Command (ACC) C4I Systems Guide, Vol I, HQ ACC/SC, 24 Dec 1994. A History of the Contingency Theater Automated Planning System (CTAPS), Part One, Background, HQ TAC, Jan 91. Software User's Manual (SUM) for the Human-Machine-Interface (HMI) of the Theater Battle Management Core System (TBMCS). Air Combat Command Computer Systems Squadron, Langley Air Force Base, VA 23665-2091.

3. Systems Training (9 Events, 154.0 Hours)

SYS-250 2.0 T L/S Z

Goal. Operate fixed radar equipment.

Requirement. Properly utilize all equipment in a radar facility.

Performance Standards. Operate the following radar equipment:

(1) Search Radar.
(2) Precision Radar.
(3) Transmitter/receiver control panel(s).
(4) Backup/emergency transmitter/receiver location and controls.
(5) Intercom units.
(6) Telephones.
(7) Altimeter.
(8) Wind instruments.
(9) Clocks.
(10) NAVAID monitors.
(11) Console lighting.
(12) Cooling and heating controls.
(13) Emergency alert system.
(14) Fire extinguishers.
(15) Emergency power cutoff.
(16) FDEP/FDIO.
(17) Personal Computer.
(18) Weather reporting monitor.
(19) VISCOM.
(20) Simulator.

Prerequisite. FAM-202.

Reference. Facility Manual.

SYS-251 2.0 T L/S Z

Goal. Operate fixed control tower equipment.

Requirement. Properly utilize all equipment in a tower.

Performance Standards. Operate the following equipment:

(1) Transmitter/receiver control panel(s).
(2) Backup/emergency transmitter/receiver location and controls.
(3) Airfield lighting console/computer.
(4) Intercom units.
(5) Telephones.
(6) Altimeter.
(7) Aldis lamp.
(8) Wind instruments.
(9) Clocks.
(10) NAVAID monitors.
(11) Console and cab lighting.
(12) Cooling and heating controls.
(13) P. A. system.
(14) Emergency alert system.
(15) Fire extinguishers.
(16) Emergency power cutoff.
(17) Traffic tabulators.
(18) FDEP/FDIO.
(19) BRANDS/BRITE.
(20) Personal Computer.
(21) Weather reporting monitor.

Prerequisite. FAM-203.

Reference. Facility Manual.

SYS-252 40.0 T,R L/S Z

Goal. Demonstrate knowledge of all MATCD equipment characteristics.

Requirement. Apply operational knowledge of all MATCD equipment through practical application, to include:

(1) AN/HD-1099, Air Conditioner.
(2) AN/MEP-006A, 60 kW, 60Hz, Generator with Loadbank.
(3) AN/MEP-531 Generator.
(4) VM-1503 Mobilizer.
(5) M1022 Mobilizer.
(6) M998, HMMWV.
(7) TSM-170, Maintenance Vans.
(8) AN/TPN-30, Marine Remote Area Approach Landing System.
(9) AN/TPS-73, Air Traffic Control Subsystem.
(10) AN/TPN-22, All-Weather Landing Subsystem.
(11) AN/TSQ-131, Control and Communication Subsystem.
(12) AN/TSQ-216, Remote Landing Site Tower.
(13) AN/TRN-44, TACAN.
(14) AN/TRC-195, Portable Tower.

(15) AN/TSQ-120, Expeditionary control tower.
(16) AN/GRC-171(V)1.
(17) AN/GRC-171(V)2.
(18) AN/GRC-211.
(19) AN/URC-94(V)2.
(20) AN/VRC-82.

Performance Standards. The officer will visually identify and provide general specifications for the above equipment with a minimum of 70% accuracy.

Prerequisite. FAM-215 and FAM-219.

Reference. TM 2000 series and MAWTS-1 MACCS Reference Guide.

SYS-253 5.0 T,R L/S Z

Goal. Operate MATCD communication assets and identify its capabilities.

Requirement. In a garrison or field setting, demonstrate the knowledge to operate the MATCD communication assets and provide its capabilities to include:

(1) VHF/UHF/HF/FM radios and corresponding control positions.
(2) Communication equipment associated with the AN/TSQ-120, AN/TSQ-216 and AN/TSQ-131.
(3) Encryption capabilities and COMSEC procedures.

Performance Standards. The officer will establish a two-way communication link using at least two different types of radio equipment and perform a radio check in both secured and unsecured modes.

Prerequisite. Lecture A-18, A-19, and FAM-213.

Reference. MATCALS Controller Handbook and CMS-21A.

SYS-254 8.0 T,R L/S Z

Goal. Configure the Control and Communications (AN/TSQ-131) and associated equipment for basic operation.

Requirement. Properly utilize all equipment in the AN/TSQ-131.

Performance Standards. Execute the following functions:

(1) Operate the Operator Control Unit (OCU).
(2) Set up communications for a final approach.
(3) Program Multi-Mode Display (MMD) for elevation/azimuth.
(4) Load FOC software into MMD via Magnetic Tape Unit (MTU).
(5) Load FOC software into MMD via Serial Data Bus (SDB).
(6) Set up an MMD for surveillance usage (ADC).
(7) Set up an MMD for a Final Controller (FC) Trainee.
(8) Set up a Final Control (FC) simulation scenario.

(9) Establish and exit a TADIL-B circuit.
(10) Emergency circuit exit TADIL-B.
(11) Use of filters against TADIL-B.
(12) Build maps.

Prerequisite. Lectures A-18, A-19, and SYS-252.

Reference. MATCALS Controller Handbook.

SYS-255 5.0 T,R L/S Z

Goal. Identify standard data link symbology.

Requirement. During a data link exercise, identify and manipulate standard symbology over a TADIL-B link. The exercise should include friendlies, hostiles, unknowns, and pending. Ensure the display includes applicable information from the Airspace Control Order (ACO), i.e. CAP locations, MRRs, MEZ/FEZ.

Performance Standards. Visually identify data link symbology with a minimum of 70% accuracy.

Prerequisite. Lecture A-16 and FAM-219.

Reference. MATCALS Controller Handbook.

SYS-256 5.0 T,R L/S Z

Goal. Operate the AN/TSQ-120, Expeditionary Control Tower and associated equipment.

Requirement. Properly utilize all equipment in the AN/TSQ-120.

Performance Standards. Locate and operate the following equipment:

(1) Power distribution panel.
(2) Internal and external lights.
(3) Aldis lamp.
(4) Overhead speakers and adjustment knobs.
(5) Flare gun assembly and firing switch.
(6) Digital clock.
(7) Thermostat.
(8) Convert barometric pressure reading to altimeter setting.
(9) Wind direction and speed indicator operation.
(10) TELCO (intercom/land line).
(11) VHF and UHF tunable radios.
(12) Radio selector buttons.
(13) Speaker selector switch.
(14) ATIS.
(15) Microphone and headset/handset jacks.
(16) Crash alarm.
(17) Fire detector.
(18) Operators Control Unit (OCU).

Prerequisite. FAM-215.

Reference. Part II Expeditionary Control Tower Equipment Basic Course, Technical Manual EEE 119-MA-OMI-010/SA2257TSQ-120, and MCO 3501.9B.

SYS-257 6.0 T,R L/S Z

Goal. Observe MACCS agencies in an exercise.

Requirement. In garrison or a field exercise, observe MACCS agencies and become familiar with major operating positions, communication links, and integration requirements.

Performance Standards. Identify the following with a minimum of a 70% accuracy rate.

(1) Major operating positions of the:
    (a) TACC.
    (b) TAOC.
    (c) DASC.
    (d) LAAD.
    (e) MWCS.
    (f) VMU.
(2) Identify the types of communication available at the:
    (a) TACC.
    (b) TAOC.
    (c) DASC.
    (d) LAAD.
    (e) MWCS.
    (f) VMU.

Prerequisite. FAM-217.

Reference. FMFM 100-103-2 and MAWTS-1 MACCS Reference Guide.

External Syllabus Support. TACC, TAOC, VMU, LAAD Platoon, DASC, and MWCS Detachments.

SYS-258 5.0 T,R L/S Z

Goal. Operate the Remote Landing Site Tower (AN/TSQ-216) and associated equipment.

Requirement. Properly utilize all equipment in the AN/TSQ-216.

Performance Standards. Locate and operate the following equipment:

(1) Power distribution panel.
(2) Internal and external lights.
(3) Aldis lamp (IR and visible light).
(4) Flare gun.
(5) Digital clock.
(6) Thermostat.
(7) Convert barometric pressure reading to altimeter setting.
(8) Wind direction and speed indicator operation.

(9) TELCO (intercom/land line).
(10) VHF, UHF and HF tunable radios.
(11) Radio selector buttons.
(12) Speaker selector switch.
(13) ATIS.
(14) Microphone and headset/handset jacks.
(15) Crash alarm.
(16) Fire detector.
(17) Operators Control Unit (OCU).
(18) Antenna construction.
(19) Generator.

Prerequisite. KFAM-206.

Reference. RLST TM.

4. Simulation Training (1 Event, 10.0 Hours)

SIM-260 10.0 R S Z

Goal. Control precision/surveillance approaches using the simulation mode of the AN/TSQ-131.

Requirement. Utilize the AN/TSQ-131 equipment under the supervision of an OJTI.

Performance Standards. Control 20 simulated approaches using the following RFC modes of the MATCALS:

(1) Simulated Mode III final approach.
(2) Simulated Mode II final approach.
(3) Simulated Mode I final using track update menu.
(4) Simulated Mode II, ACLS, TADIL-C.
(5) Use all of the above to include simulated emergencies and unusual circumstances.

Prerequisite. SYS-254 and KFAM-206.

Reference. MATCALS System Operation Manual, MATCALS Controller Handbook, and MCO 3501.9B.

5. Operations Training (3 Events, 62.0 Hours)

OPS-270 30.0 T L Z

Goal. Perform the duties of a Radar Final Controller.

Requirement. In a radar environment, under direct supervision of an OJTI, perform the duties and responsibilities of a Radar Final Controller.

Performance Standards. Demonstrate the proficiency required to be recommended for qualification as a Radar Final controller.

Prerequisite. SYS-250, KFAM-200 through KFAM-204, and all KRFC knowledge events.

Reference

NAVAIR 00-80T-114
- Ch4 Naval Certification Procedures.
- Ch7 General (Radar Operations).
- Ch8 Training, Standardization, and Air Traffic Controller Performance Evaluations.
- Appendix G ATC Specialist Mishap Statement.
- Appendix I Minimum Altitude Vectoring Chart.
- Appendix J Certification, Rating, and Quality Assurance Program.

Local publications and MCO 3501.9B.

OPS-271 30.0 T L Z

Goal. Perform the duties of Tower Ground Controller.

Requirement. In a control tower, under direct supervision of an OJTI, perform the duties and responsibilities of a Tower Ground Controller.

Performance Standards. Demonstrate the proficiency required to be recommended for qualification as a Tower Ground controller.

Prerequisite. SYS-251, KFAM-200 thru KFAM-204, and all KTGC events.

Reference

NAVAIR 00-80T-114
- Ch4 Naval Certification Procedures.
- Ch6 General (Tower Operations).
- Ch8 Training, Standardization, and Air Traffic Controller Performance Evaluations.
- Appendix G ATC Specialist Mishap Statement.
- Appendix I Minimum Altitude Vectoring Chart.
- Appendix J Certification, Rating, and Quality Assurance Program.

Local publications and MCO 3501.9B.

OPS-272 2.0 T,R L/S Z

Goal. Operate communications equipment in secure mode and frequency agile mode (as applicable).

Requirement. In a garrison or field environment, communicate with other agencies using the secure mode of organic radios.

Performance Standards. Demonstrate the use of the following:

(1) AN/GRC-171 (V) (Tower).
(2) AN/GRC-171 (V) (TADIL-C).
(3) AN/GRC-211.
(4) AN/URC-94 (V).
(5) AN/VRC-82.
(6) AN/PRC-119 FM.
(7) AN/PRC-104 HF.

(8) AN/PRC-113 UHF/VHF (AM).
(9) AN/PRC-117F.
(10) AN/PRC-138.
(11) KG-84C.
(12) KY-58,99.
(13) KIR-1C.
(14) KY-75.
(15) KYK-13.
(16) KOI-18.
(17) ARC-210.
(18) CYZ-10.

Prerequisite. Lecture A-19, KFAM-209, and SYS-253.

Reference. MCI 25.25, MAWTS-1 ASP, and MCO 3501.9B.

6. Check Training (2 Events, 4 Hours)

CK-280 2.0 T,E L Z

Goal. Qualify as a Radar Final Controller.

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and procedures in a safe, orderly, and expeditious manner while on the Radar Final Control position.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency as a Radar Final Controller:

(1) Provide instructions necessary for an aircraft to conduct an ASR/PAR/PALS approach.
(2) When required, monitor approaches as specified in FAA 7110.65.
(3) Other duties as assigned by the Radar Watch Supervisor.
(4) Other duties as outlined in local Facility Manual.

Prerequisite. OPS-270.

Reference. NAVAIR 00-80T-114, Facility Manual, and MCO 3501.9B.

CK-281 2.0 T,E L Z

Goal. Qualify as a Tower Ground Controller.

Requirement. In a garrison or field environment, under direct supervision and in compliance with established NATOPS evaluation criteria, apply knowledge and procedures in a safe, orderly, and expeditious manner while on the Tower Ground Control position.

Performance Standards. Pass an OJT exam demonstrating knowledge and proficiency to perform the following as a Tower Ground Controller:

(1) Formulate and issue ground movement clearances to aircraft and vehicles operating on the airport.

(2) Transmit current weather and field conditions, as required.
(3) Other duties as assigned by the Tower Watch Supervisor.
(4) Other duties as outlined in local Facility Manual.

Prerequisite. OPS-271.

Reference. NAVAIR 00-80T-114, Facility Manual, and MCO 3501.9B.

134. COMBAT QUALIFICATION TRAINING EVENTS

1. Purpose. To develop advanced proficiency in air traffic control tower and radar operations. Upon completion of this portion of the training syllabus, the individual is 95% trained in ATC tower and radar operations and is Combat Qualified. Syllabus requirements are designated as Familiarization (FAM), Simulation (SIM), Operations (OPS), and Qualification (QUAL).

a. Prerequisite. Successfully complete the 200-level of this syllabus.

b. Academic Training. In addition to MAWTS ASP lessons located in table 1-7, some events require the controller to be familiar with knowledge syllabus references located in Appendix A of this syllabus. All knowledge syllabus events must be covered in an oral or written exam. The minimum passing score is 80%.

c. Live and Simulator Event Training (33 Events, 235 Hours)

2. Familiarization Events (17 Events, 45.0 Hours)

FAM-300 2.0 T,R L Z

Goal. Describe the MATCD LOA/SOP/Time Share documents and FAP agreement.

Requirement. Identify the characteristics of existing MATCD LOAs/SOP/Time Share documents and FAP agreement.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. Local LOAs/SOP/time share documents for the MATCD.

FAM-301 4.0 T,R L/S Z

Goal. Introduce MATCD site selection.

Requirement. Participate in the planning and conduct of a site survey for the placement of a MATCD.

Performance Standards. Perform the following:

(1) Select a MATCD site considering:
(a) Mission.
(b) Tower site with best view of airport, Class D airspace, and patterns.
(c) PAR site that affords clear avenues.
(d) Reconnaissance of selected sites.

(d) ASR site that provides minimal terrain masking.
(e) Radar coverage of the area of ATC responsibility.
(f) Camouflage.
(g) Site security.
(h) Support equipment.

(2) Account for the following MATCD equipment characteristics:
(a) Sighting limits of the radar set.
(b) Optimum runway/sector coverage.
(c) Obstructions to radar view.
(d) Terrain characteristics.
(e) Typical sighting configurations.
(f) Power requirements.
(g) Installation requirements.
(h) Wind survival tie-down procedures.

Prerequisite. FAM-214.

Reference. MAWTS-1 ASP and MCO 3501.9B.

FAM-302 2.0 T,R L Z

Goal. Describe Forward Operating Bases (FOB's) and how the MATCD supports them.

Requirement. Properly man and equip the different FOB’s common to the Marine Corps.

Performance Standards. Identify each of the following and the MATCD that is employed in support of each:

(1) Main Air Base.
(2) Air Facility.
(3) Rapid Ground Refueling (RGR) procedures.
(4) Air Sites (Tactical Landing Zone (TLZ), Helicopter Landing Zones (HLZ).
(5) Air Points (Forward Arming and Refueling Point [FARP], Rapid Ground Refueling [RGR], Lager Point).

FAM-303 2.0 T,R L/S Z

Goal. Introduce flight inspection/certification procedures.

Requirement. Understand requirements for a flight inspection.

Performance Standards. Describe flight inspection/certification to include:

(1) Request to the appropriate agency.
(2) Standardization procedures and techniques for flight inspecting air navigation facilities.
(3) Certifying NAVAID/radar operational status.
(4) Certifying the instrument flight procedures that the NAVAID/radar supports.
(5) Flight check profiles associated with permissive and restrictive environments.

Reference. FAA Handbook OAP 8200.1 U.S. Standard Flight Inspection Manual.

FAM-304 2.0 T,R L Z

Goal. Introduce Terminal Instrument Procedures (TERPS).

Requirement. State the following:

(1) Purpose of TERPS.
(2) Two types of TERPS.
(3) Four segments in procedures construction.
(4) MATCD NAVAIDS.
(5) Two areas of each segment.
(6) Required obstacle clearance for each approach segment.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. FAAH OAP 8200.1 U.S. Standard Flight Inspection Manual, OPNAV 3722.16 U.S. Standard for Terminal Instrument Procedures, Terminal Instrument Procedures (TERPS) (#01230) ASP, MAWTS-1, and MCO 3501.9B.

FAM-305 3.0 T,R L/S Z

Goal. Describe an Airspace Control Plan (ACP), Air Tasking Order/Airspace Control Order (ATO/ACO), OPTASKLINK message and Special Instructions (SPINS).

Requirement. Extrapolate information from the ATO/SPINS, ACO, and OPTASKLINK.

Performance Standards. Utilize the information in an ATO/ACO, OPTASKLINK message and SPINS to:

(1) Schedule appropriate number of position qualified controllers.
(2) Schedule student controller training.
(3) Manipulate the ATO/ACO into a flight schedule for MATCD use.
(4) Reporting unit responsibilities.

Prerequisite. Lecture A-09.

Reference. ACP, ATO/ACO, SPINS, and MCO 3501.9B.

FAM-306 2.0 T,R L Z

Goal. Describe Electronic Warfare (EW).

Requirement. Utilize proper EW procedures.

Performance Standards. Recognize EW activity and demonstrate:

(1) Meaconing, Intrusion, Jamming, and Interference (MIJI) reporting as it applies to the following ATC equipment: (a) AN/TSQ-120.

(b) AN/TRN-44.
(c) AN/TPN-30.
(d) AN/TSQ-131.
(e) AN/TPS-73.
(f) AN/TPN-22.
(g) AN/TRC-195.

(2) Knowledge of the following EW categories:
(a) Electronic Protection (EP).
(b) Electronic Attack (EA) techniques.
(c) Electronic support (ES) techniques.

Reference. MACS Electronic Warfare (U) (#01205) MAWTS-1 ASP.

FAM-307 2.0 T,R L Z

Goal. Introduce Tactical Digital Information Link (TADIL) theory.

Requirement. Explain TADIL theory to include:

(1) Identify the characteristics of existing TADILs.
(2) Identify the meaning of Data Link Reference Point (DLRP), Unit System Coordination Center (USCC), Unit Position (UPOS) and the difference between the data grid and the display grid.
(3) Identify the capabilities of each service's command and control agencies to conduct one or more of the TADILs.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. MAWTS-1 ASP.

FAM-308 2.0 T,R L Z

Goal. Describe MACCS TADIL interoperability.

Requirement. Describe MACCS TADIL interoperability to include:

(1) Major interface considerations with the following:
(a) TADIL-A.
(b) TADIL-B.
(c) GBDL.
(d) TADIL-C.
(e) TADIL-J.
(2) Specific considerations for data link operation.
(3) Voice nets to be activated for joint service operations.
(4) Major considerations for selecting TADIL systems.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. MACCS Data Link Interoperability (#11214) MAWTS-1 ASP.

FAM-309 2.0 T,R L Z

Goal. Describe Operational Data (OPDAT) message preparation and use.

Requirement. Describe an OPDAT message to include:

(1) Locate the OPDAT message in JCS PUB 12, Vols. 1-4, and JTAO Procedural Handbook.
(2) Complete the OPDAT message using supplied parameters.
(3) Identify those parts of the OPDAT that relate to TADIL-B.
(4) Identify what information is contained within each part relating to TADIL-B and how it is applied to the JTAO interface.
(5) Identify those parts of the OPDAT that relate to interface duties, areas of responsibility, and zones of airspace responsibility.
(6) Identify the three ways OPDAT expresses locations, areas of responsibility, and zones of airspace management.
(7) Identify the OPDAT part dealing with encryption references.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. MAWTS-1 ASP #11205.

Reference. JCS PUB 12, Vols. 1-4, JTAO Procedural Handbook, and OPDAT.

FAM-310 2.0 T,R L Z

Goal. Describe phasing control ashore.

Requirement. Describe in detail phasing control ashore to include:

(1) Phases in the process.
(2) MACCS agency actions that define each phase.
(3) Primary communication links between agencies.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. Phasing Control Ashore (#10318) MAWTS-1 ASP.

FAM-311 2.0 T,R L Z

Goal. Describe airspace and ATC considerations in regard to the Federal Aviation Administration (FAA).

Requirement. Interact with the civil aviation community.

Performance Standards. Describe or complete the following in regard to airspace and ATC considerations and the FAA:

(1) Status of ATC equipment systems.

(2) Operational tempo of civilian flights within local airspace.
(3) Liaison with FAA ATC representatives.
(4) Information flow between civilian and military ATC personnel.
(5) Control measures to deconflict military/civilian aircraft.

Reference. OPNAV 3770.2 Airspace Procedures Manual, FAA Handbook 7400.8 Special Use Airspace, ACP/ACO, Pilot Controller Handbook (PCH), NAVAIR 00-80T-114 ATC Facilities Manual, and NAVAIR 00-80T-115 Expeditionary Airfields.

FAM-312 2.0 T,R L Z

Goal. Introduce airspace and ATC considerations with regard to the International Civil Aviation Organization (ICAO).

Requirement. Describe or complete the following in regard to airspace and ATC considerations and the ICAO:

(1) Status of sovereign nation's air traffic control system.
(2) Operational tempo of civilian flights.
(3) Liaison with sovereign nation's ATC representatives.
(4) Information flow between civilian and military ATC personnel.
(5) Control measures to deconflict military/civilian aircraft.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. DOC-4444/501 ICAO Rules of the Air and ATC Service.

FAM-313 4.0 T,R L Z

Goal. Describe the Airspace Deconfliction System (ADS).

Requirement. Describe the purposes and the JAOC users of ADS, including its functions and capabilities.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. FAM-220, and ACC TBMCS Operator/Technician Course (F19L2V2).

Reference. ADS Software User's Manual (SUM) TBMCS and Air Operations Center, ACCI 13, 1 Feb 95.

FAM-314 4.0 T,R L Z

Goal. Describe the Joint Air Operation Center (JAOC).

Requirement. Describe the JAOC to include:

(1) Primary mission and elements of the JAOC.

(2) Responsibilities of each JAOC Division/element to include:
(a) Combat Operations Division.
(b) Combat Plans Division.
(c) Strategy Division.
(d) Air Mobility Division.
(e) Liaison personnel within the JAOC.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. Joint Pub 1-02, DOD Dictionary of Military and Associated Terms, March 1994, Joint Pub 3.0 Operations, September 1993, Air Combat Command Instruction 13, February 1995, Joint Pub 3.56.1 Command and Control for Joint Air Operations, Nov 1994, Joint Pub 3.56.24 Joint Interface Operational Procedures, Oct 1992.

FAM-315 6.0 T,R L/S Z

Goal. Demonstrate embarkation of ATC equipment.

Requirement. Identify requirements and prepare the required data to aid in the construction of a load plan for amphibious shipping and fixed wing air transport platforms including C-5A, C-141B, C-17 and C-130.

Performance Standards. Specifically describe how many lifts of each aircraft listed above it would take to move each of the following systems with associated support equipment:

(1) AN/TSQ-120 Expeditionary Control Tower.
(2) AN/TRC-195 Mobile Control Tower.
(3) AN/TSQ-216 Remote Landing Site Tower.
(4) AN/TSQ-131 Control and Communication Subsystem.
(5) AN/TRN-44 TACAN.
(6) AN/TPN-30A Marine Remote Area Approach Landing System.
(7) AN/TPN-22 All-Weather Landing Subsystem.
(8) TSM-170 Maintenance Van.
(9) AN/TSQ-73 Surveillance Radar.
(10) Equipment requiring movement with a 30 ton crane.
(11) Equipment requiring movement with a 7.5 ton crane.
(12) Equipment requiring movement with a 10,000 lb forklift.
(13) Equipment requiring movement with a 6,000 lb forklift.
(14) Ground transportation requirements to the POE/site.
(15) Equipment requiring movement with a RATCH.
(16) Pallet construction and packing.

Reference. MAWTS-1 ASP, MCI 04.7, and MCI 04.11.

FAM-316 2.0 T,R L Z

Goal. Demonstrate knowledge of the VMU system and capabilities of the VMU squadron.

Requirement. Understand capabilities of the VMU squadron.

Performance Standards. Demonstrate knowledge of the VMU to include:

(1) Asset location.
(2) Remote receiving station (RRS).
(3) Ground control station (GCS) including remote capabilities.
(4) Launch and recovery site location.
(5) Capabilities and limitations to include:
    (a) Missions.
    (b) Endurance.
    (c) Radius of action.
    (d) Sensors.
    (e) Acoustic signature.
    (f) Weather.
    (g) Personnel requirements.
(6) Vulnerabilities to include SAM, AAA, and electronic warfare.
(7) Airspace management considerations.

External Syllabus Support. VMU squadron officer.

3. Systems Training (2 Events, 22.0 Hours)

SYS-320 16.0 T,R L/S Z

Goal. Configure the AN/TSQ-131, Control and Communications Subsystem (CCS) for operations.

Requirement. Properly utilize all equipment in the AN/TSQ-131.

Performance Standards. With the aid of references, complete the actions required to operate the four modes available to the MATCALS operator:

(1) Arrival/Departure Controller (ADC).
(2) Final Controller (FC).
(3) Maintenance (MT).
(4) Training (TR) in the AN/TSQ-131, CCS to include:
    (a) Console modes available (basic, operational, and utility).
    (b) System parameters (functional limits, compile-time parameters).
    (c) Concurrent and redundant software modules.
    (d) Control and Communications Subsystem (CCS) operational program interface.
    (e) Software architecture.
    (f) System turn-on procedures.
    (g) System initialization.
    (h) Local/remote Magnetic Tape Unit (MTU) loading.
    (i) Entering system initialization.
    (j) System readiness check-off.
    (k) System performance monitoring.
    (l) Operator Control Unit (OCU) procedures/capabilities.
    (m) Data entry tools (Fixed Action Buttons [FAB], Variable Action Buttons [VAB], keyboard, graphic tablet).

(n) Console mode menu trees.
(o) Equipment list.

Prerequisite. MATCALS Advanced Operator Course (N2473H1), FAM-303, SYS-254, and SIM-260.

Reference. MATCALS Controller Handbook.

SYS-321 6.0 T,R L/S Z

Goal. Develop an ACO utilizing TBMCS AD Module.

Requirement. Perform as Airspace Deconfliction in a TACC or Joint Air Operations Center (JAOC).

Performance Standards. With the aid of references develop and generate the ACO utilizing AD to include:

(1) Set up AD for entering airspace user requirements and retrieving information.
(2) Enter airspace user requirements into AD and identify conflicts.
(3) Resolve conflicts using AD.
(4) Generate an ACO.

Prerequisite. FAM-305, FAM-313, and Secret Level-GENSER Clearance.

Reference. ADS Software User's Manual (SUM) TBMCS and Air Operations Center, ACCI 13, 1 Feb 95.

4. Simulation Training (3 Events, 48.0 Hours)

SIM-330 20.0 T,R L/S Z

Goal. Develop plans for ATC services in support of a FOB.

Requirement. Given a tactical scenario, identify the level of security, types of aircraft, lift assets, location, and support agencies associated with:

(1) Main Base.
(2) Air Facility.
(3) Air Site.
(4) Air Point.
    (a) FARP.
    (b) Lager Point.

Performance Standards. Develop an LOI for a MATCD that identifies requirements of each for the four types of FOBs.

Prerequisite. FAM-301 and FAM-302.

Reference. MAWTS-1 ASP.

SIM-331 20.0 T,R L/S Z

Goal. Demonstrate communications planning.

Requirement. Demonstrate knowledge of a communications plan, ACEOI, Annex K of an operations order/plan.

Performance Standards. Perform the following:

(1) Participate in the communication planning for a MACCS training evolution.
(2) Use the Annex K and ACEOI to develop the MATCD Communications Plan for a MACCS Exercise.

Prerequisite. FAM-216 and FAM-217.

Reference. MAWTS-1 ASP.

External Syllabus Support. MACCS training exercise.

SIM-332 8.0 T,R S Z

Goal. Conduct ATC operations in an NBC environment.

Requirement. In a simulated MOPP Level IV NBC environment, perform ATC functions while operating MATCD equipment.

Performance Standards. While in MOPP IV, provide for the safe, orderly, and expeditious movement of air traffic, in either radar or tower environment.

Reference. MCI 57.6 and MCO 3501.9B.

External Syllabus Support. Voice amplifier.

5. Operations Training (8 Events, 72 Hours)

OPS-340 2.0 T,R S/L

Goal. Conduct an ATC tactical crew brief.

Requirement. In a simulation/exercise, conduct a tactical crew brief.

Performance Standards. Brief must include:

(1) Enemy and friendly situation.
(2) Base Defense Zone (BDZ) status.
(3) Air defense warning condition.
(4) Status of alert.
(5) Weapons release condition.
(6) Continuing missions.
(7) Scheduled events.
(8) Published ATO.
(9) Assigned frequencies/callsigns.
(10) Weather.
(11) Equipment status.

(12) Crew requirements.
(13) Casualty procedures.
(14) Emergency procedures.

Prerequisite. FAM-211.

Reference. MAWTS-1 ASP.

OPS-341 10.0 T,R L/S Z

Goal. Prepare, request, and supervise a flight inspection/certification for a MCAS or MATCD.

Requirement. Supervise a flight inspection/certification of a MCAS or MATCD ATC equipment.

Performance Standards. Perform or describe the following:

(1) Request a flight inspection from the appropriate agency.
(2) Certify NAVAID/radar operational status.
(3) Certify instrument flight procedures the NAVAID/radar supports.
(4) Conduct pre/post flight check briefs with designated flight
(5) Check crew.
(6) Tactical flight check profiles associated with permissive, and restrictive environments.
(7) Approving authority.

Prerequisite. FAM-303.

Reference. FAA Handbook OAP 8200.1 U.S. Standard Flight Inspection Manual (TERPS Manual), OPNAVINST 3722.16, NAVAIR 00-80T-114, and NAVAIR 00-80T-115.

External Syllabus Support. FAA Flight Check aircraft.

OPS-342 N/A T,R L Z

Goal. Train as an Air Traffic Control Facility Watch Officer (ATCFWO)/MATCD WC.

Requirement. During an operation or a field exercise, and under the direct supervision of a qualified FWO/WC, perform the duties and responsibilities of a FWO/WC.

Performance Standards. Demonstrate proficiency in the following:

(1) Crew management.
(2) Maintain current status of BDZ if in a tactical environment.
(3) MACCS information flow.
(4) Interface with external MACCS agencies.
(5) Control judgment.
(6) Traffic management.
(7) Operating procedures and methods.

(8) Coordination and communication.
(9) NOTAMS.
(10) Flight schedules/ATO.
(11) Airfield status.
(12) Equipment.

Prerequisite. CK-280 and CK-281.

Reference. FAA 7110.65, FAA 7110.10, NAVAIR 00-80T-114, NAVAIR 00-80T-115, and local publications.

OPS-343 4.0 T,R S/L Z

Goal. Identify and execute Electronic Protection (EP) procedures for the MATCALS.

Requirement. In a garrison or field setting in a simulated electronic warfare environment, employ EP procedures.

Performance Standards. Describe the following:

(1) ECCM features of MATCALS radars.
(2) EP brevity codes per Air, Land, and Sea Application Center (ALSA) Publication.
(3) Launch/recover aircraft, effect all-weather recoveries, and radar/non-radar handovers between ATC and adjacent agencies.

Prerequisite. FAM-306.

Reference. MAWTS-1 ASP, ALSA Center Publication and MCRP 3-25B.

External Syllabus Support. EA-6B.

OPS-344 8.0 T,R L Z

Goal. Perform as an MMT Leader.

Requirement. During an operation or training exercise, while utilizing required equipment, and under the supervision of a qualified MMT Leader Instructor, perform as an MMT Leader.

Performance Standards

(1) Recommend/assist in TLZ/HLZ site selection and survey.
(2) Coordinate with civil and military control agencies.
(3) Prepare personnel and equipment readiness.
(4) Conduct MMT and aircrew briefings.
(5) Insertion and extraction methods.
(6) Mark TLZ/HLZs.

Prerequisite. FAM-301 and FAM-302.

Reference. MCI 25.30, MCI 25.32, AMCR 55-60, MCO 3501.9B, and MMT SOP.

OPS-345 N/A T,R L Z

Goal. Perform as an MMT Leader for a MACG MEU(SOC) Detachment.

Requirement. Perform as the MMT Leader for a MACG MEU(SOC) Detachment.

Performance Standards. Perform the following duties:

(1) Planning.
(2) Personnel management.
(3) Aircrew briefings.
(4) MMT operations.
(5) Insertions and Extraction.
(6) ATC liaison.

Reference. MAWTS-1 ASP.

External Syllabus Support. MACG MEU Detachment and MEU aviation operations.

OPS-346 24.0 T,R L

Goal. Plan and employ a Base Defense Zone (BDZ).

Requirement. In a field environment, plan and employ a BDZ.

Performance Standards. Execute a BDZ to include:

(1) LAAD capabilities, limitations, and requirements.
(2) Air defense priorities.
(3) Air defense control measures.
(4) ID criteria and responsibility.
(5) Rules of engagement.
(6) Integration within the MACCS.
(7) Communications planning.
(8) GBDL architecture.

OPS-347 24.0 T,R L/S Z

Goal. Conduct MATCALS Tactical Digital Information Link (TADIL) B/C.

Requirement. With the aid of references, conduct TADIL-B and -C operations to include:

(1) TADIL-B initialization and monitoring.
(2) Air track processing.
(3) Special points and pointers.
(4) Orders and command type messages.
(5) Establishing and exiting TADIL-B circuits.
(6) Emergency circuit exit TADIL-B.
(7) Use of Filters with TADIL-B.
(8) Mode II, ACLS, and TADIL-C.
(9) Identify and manipulate standard symbology over a TADIL-B link.

Performance Standards

(1) Establish a TADIL-B link with at least one other MACCS agency.
(2) Establish TADIL-C link with aircraft for Mode II approach.

Prerequisite. MATCALS Advanced Operator (N2473H1), FAM-307, and FAM-308.

Reference. MATCALS Controller Handbook.

External Syllabus Support. Operational TACC and/or TAOC.

6. Qualification Training (3 Events, 48.0 Hours)

QUAL-390 8.0 E L Z

Goal. Qualify as an MMT Leader in a field exercise.

Requirement. During an operation/field exercise, with a qualified MMT Leader Instructor, qualify as an MMT Leader.

Performance Standards. Demonstrate proficiency in the following:

(1) Site selection.
(2) Personnel and equipment readiness.
(3) MMT and aircrew briefings.
(4) Insertion and extraction.
(5) Mark TLZ/HLZs.

Prerequisite. OPS-344, KFAM-212, and FAM-302.

Reference. MCI 25.30, MCI 25.32, AFI 13-217, and MCO 3501.9B.

DESG-391 N/A L Z

Goal. Perform as an Air Traffic Control Facility Watch Officer (ATCFWO) /MATCD WC.

Requirement. During an operation or a field exercise, perform the duties and responsibilities of a FWO/WC.

Performance Standards. Demonstrate proficiency in the following:

(1) Crew management.
(2) Maintain current status of BDZ if in a tactical environment.
(3) MACCS information flow.
(4) Interface with external MACCS agencies.
(5) Control judgment.
(6) Traffic management.
(7) Operating procedures and methods.
(8) Coordination and communication.
(9) NOTAMS.
(10) Flight schedules/ATO.
(11) Airfield status.

(12) Equipment.

Prerequisite. CK-280 and CK-281; other prerequisites for an FWO/WC will be determined by the ATCFO or MATCD Commander.

Reference. FAA 7110.65, FAA 7110.10, NAVAIR 00-80T-114, NAVAIR 00-80T-115, and local publications.

DESG-392 40.0 T,R L Z

Goal. Perform as the ATCFO.

Requirement. Manage an Air Traffic Control Facility (ATCF) at a MCAS.

Performance Standards. Perform the following:

(1) Manage an ATCF.
(2) Provide proper management and coordination of aircraft operations within ATC jurisdiction of the facility.
(3) Establish standard operating procedures as related to personnel equipment, training, and qualifications.
(4) Act as liaison with the FAA and military units on airspace matters.

Prerequisite. CK-280 and CK-281.

Reference. NAVAIR 00-80T-114.

135. FULL COMBAT QUALIFICATION TRAINING

1. Purpose. To provide training such as Special Purpose MAGTF/MEF level MACS employment, advanced MACS ATC Detachment tactics, and comprehensive training in MACCS, MAGTF, and Joint Goal Force (JTF)/Joint Forces Air Component Commander (JFACC) operations. Upon completion the individual is 100% trained and is fully combat qualified. Note: concurrent with this stage of training, qualified individuals are expected to receive training as a detachment commander to fully integrate the MATC Detachment as an agency of the MACCS. Syllabus requirements are coded as Familiarization (FAM), Simulation (SIM), or Operations (OPS).

a. Prerequisite. Successfully complete the 300-level of this syllabus.

b. Academic Training. A combination of the MAWTS ASP and JTAO Computer Based Training Modules are used to complete the events in this series.

c. Live and Simulator Event Training (25 Events, 554 Hours)

2. Familiarization Training (11 Events, 30.0 Hours)

FAM-400 2.0 T,R L Z

Goal. Introduce C2 of USMC TACAIR in joint operations.

Requirement. Understand command and control of Marine aviation in a joint environment.

Performance Standards. Explain C2 of USMC TACAIR in joint operations to include:

(1) Terminology utilized during joint operations.
(2) Chain of command in joint operations.
(3) Joint land operations command relationships.
(4) Coordination measures and areas for fire support.
(5) Definition and explanation of the Omnibus agreement in relation to USMC TACAIR.

Reference. MAWTS-1 ASP.

FAM-401 2.0 T,R L Z

Goal. Demonstrate knowledge of command and control warfare C2W.

Requirement. Explain the five pillars of C2W.

Performance Standards. Pass an exam with a minimum score of 80%.

Reference. MAWTS-1 ASP, JCS MOP 185 C3CM, FMFM 3-1, OPNAVINST 5510.1, and MCO 5600.20.

FAM-402 2.0 T,R L Z

Goal. Demonstrate knowledge of civil and combat airspace management.

Requirement. Manage airspace issues in a civil or combat environment.

Performance Standards. Describe the following:

(1) Principal airspace control facilities and the types of control they employ.
(2) Characteristics of control points.
(3) The four airspace management principles.
(4) Factors used to determine mix of positive and procedural control.
(5) MACCS intelligence collection and dissemination procedures and capabilities.
(6) Knowledge of command and control information flow.

Reference. MCWP 3-25.1, ICAC Manual, and Airspace Management Course.

FAM-403 2.0 T,R L Z

Goal. Demonstrate knowledge of Anti-Radiation Missiles (ARM) Countermeasures for MACCS units.

Requirement. Properly utilize ARM countermeasures within the MACCS.

Performance Standards. Describe ARM Countermeasures for MACCS to include:

(1) Ground rules for determining the effectiveness of ARM countermeasures.
(2) Elements considered when preparing EMCON plan.
(3) Measures to reduce the effectiveness of an ARM threat.

Reference. ARM Countermeasures for MACCS Units (U) (#10364) MAWTS-1 ASP.

FAM-404 4.0 T,R L Z

Goal. Demonstrate knowledge of JTAO interface.

Requirement. Thoroughly understand JTAO interface, and key service Air Command, Control, Communications, and Intelligence C3I systems

Performance Standards. Perform the following:

(1) Select the correct definition for JTAO Interface.
(2) Recognize the correct definitions for defensive counter air operations.
(3) Identify JTAO related terms with their definitions.
(4) Select the TADIL which represents the normal connectivity between two air C3I units.
(5) Select the correct description for a given TADIL.
(6) Identify the correct description of a key air C3I unit.
(7) Identify which TADILs use point-to-point and which use netted communications.
(8) Identify the three categories of tactical air information shared on a JTAO Interface.
(9) Recognize the correct definitions for centralized and decentralized air defense operations.
(10) Identify the three features that best describe each TADIL.

Reference. Module 1, Introduction to the JTAO Interface (U), JTAO CBT Modules.

FAM-405 4.0 T,R L Z

Goal. Demonstrate knowledge of TADIL operations.

Requirement. Thoroughly understand TADIL operations and how they link together to form the JTAO Interface.

Performance Standards. Perform the following:

(1) Recognize what combat information is exchanged and/or forwarded on the JTAO Interface in supporting the C2 functions of the service tactical data systems.
(2) Identify the characteristics and normal communication methods for a given TADIL.
(3) Recognize the different message types supported by JTIDS and what TDMA provides.
(4) Recognize the relationship between NCS, roll call, PU, and NCT.

(5) Identify the different data timing rates for TADIL-A, -B, -C, and ATDL-1.
(6) Recognize the advantages of JTIDS when compared to TADIL-A, -B, -C, and ATDL-1.
(7) Identify the four categories of equipment which comprise a representative tactical data system equipment configuration for TADIL-A, -B, -C, and ATDL-1.
(8) Recognize the six modes of operation for a Data Terminal Set.
(9) Identify the four main sections of the JTIDS Class 2 terminal.
(10) Recognize the different Key Generators (KG) employed in tactical data system equipment configurations for TADIL-A, -B, ATDL-1, and JTIDS.
(11) Recognize how shared situational awareness is provided through the process of forwarding.
(12) Recognize the interfacing units on TADIL-A, -B, and -J.
(13) Identify the term Supporting Unit (SU), and know which TADIL subscribers would normally operate as an SU.
(14) Recognize the functions provided by an FPU, FRU, and FJU.
(15) Recognize the different forwarding rules for the JTAO Interface.
(16) Identify the key publications that describe the process of forwarding data via TADIL-A, -B, and -J in the JTAO interface.

Prerequisite. Module 1, Introduction to the JTAO Interface (U), JTAO CBT Modules.

Reference. Module 2, Introduction to TADIL Operations (U), JTAO CBT Modules.

FAM-406 2.0 T,R L Z

Goal. Demonstrate knowledge of Theatre Air Control System (TACS).

Requirement. Demonstrate knowledge of the U.S. Air Force operational facilities and units that comprise the TACS.

Performance Standards. Address the organization, roles, capabilities, and limitations of these facilities and how they participate in and contribute to the JTAO Interface to include:

(1) Identify mission, organization, and capability of the Air Force (AF).
(2) Identify functions of the AF C4I system.
(3) Identify the organization of the AF C4I system as part of a Joint Force in JTAO.
(4) Describe Ground Elements of the TACS.
(5) Define the missions and functions of the TACS.
(6) Describe command, control, and communications equipment associated with TACS.
(7) Identify TACS communications connectivity required for JTAO interface.

(8) Describe radar equipment and assets of the TACS.
(9) Define the mission and functions of the Air Operations Center (AOC).
(10) Describe the peacetime and wartime organization of the AOC.
(11) Define the capabilities of the AOC.

Prerequisite. FAM-405.

Reference. Module 6, Ground Elements of the Theater Air Control System (TACS) (U), JTAO CBT Modules.

FAM-407 2.0 T,R L Z

Goal. Demonstrate knowledge of Airborne Elements of the Air Control System (AEACS).

Requirement. Demonstrate knowledge of the Air Force operational systems and units that comprise the AEACS.

Performance Standards. Address the organization, roles, capabilities, and limitations of these facilities and how they participate in and contribute to the JTAO Interface to include:

(1) Describe the missions, organization, and capabilities of the AF.
(2) Identify functions of the AF C4I system.
(3) Identify the organization of the AF C4I system as part of a Joint Force in JTAO.
(4) Identify the aircraft associated with AEACS.
(5) Describe the missions and functions of the AEACS.
(6) Describe crew composition for AEACS aircraft along with operator duty positions.
(7) Identify radar equipment used by AEACS aircraft.
(8) Describe communications equipment used by AEACS.
(9) Describe the communications interface accomplished during JTAO.

Prerequisite. FAM-405.

Reference. Module 7, Airborne Elements of the Air Control System (AEACS) (U), JTAO CBT Modules.

FAM-408 4.0 T,R L Z

Goal. Demonstrate knowledge of the Army Air Defense Command and Control System (AADCCS).

Requirement. Demonstrate knowledge of the U.S. Army operational facilities, systems, and units which comprise the AADCCS.

Performance Standards. Address the organization, roles, capabilities, and limitations of these facilities and how they participate in and contribute to the JTAO Interface to include:

(1) Describe AADCCS's contribution to JTAO.
(2) Define the operational capabilities of AADCCS.

(3) Describe the organization of ADA units.
(4) Identify the ADA equipment and data links that support the JTAO Interface.
(5) Identify key personnel in Joint Air Defense Operations.
(6) Describe the difference between command and control for ADA units.
(7) Define the chain of command for ADA units.
(8) Identify key elements within the ADA organization in Joint Air Defense operation.
(9) Identify the function of ADAFCO at the CRC or TAOC.
(10) Describe Corps air defense assets.
(11) Identify the theater air defense assets assigned to AADC for operational control.
(12) Define PATRIOT operations with reference to the mission, capabilities, and limitations.
(13) Define FAAD operations.
(14) Roles and functions of the Battlefield Coordination Detachment (BCD).
(15) Describe TADILs to various ADA systems/units.
(16) Describe key command, fire control, and communications support at the brigade level.
(17) Identify AADCCS's role in Theater Missile Defense (TMD) support.

Prerequisite. FAM-405.

Reference. Module 8, Army Air Defense Command and Control System (AADCCS)(U), and JTAO CBT Modules.

FAM-409 2.0 T,R L Z

Goal. Demonstrate knowledge of Special Information Systems Aircraft (SIS A/C).

Requirement. Demonstrate knowledge of SIS A/C.

Performance Standards. Describe the mission and capabilities of:

(1) Airborne Battlefield Command and Control Center (ABCCC).
(2) E-3C Airborne Warning Control System (AWACS).
(3) E-2 Hawkeye.
(4) Rivet Joint (RJ).
(5) JSTAR Joint Surveillance Target attack Radar System.
(6) DASC(A).
(7) Side-looking Airborne Radar (SLAR).
(8) Unmanned Aerial Vehicles (UAV).
(9) Commando Solo.

FAM-410 4.0 T,R L Z

Goal. Demonstrate knowledge of the Advanced Planning System (APS).

Requirement. Describe the following as it relates to the APS:

(1) Significance of importing planning data.

(2) Purpose of Setup Planning Data in APS.
(3) Requirements for building external requests.
(4) Means of gaining situational awareness.

Performance Standards. Pass an exam with a minimum score of 80%.

Prerequisite. SIM-350 and SYS-321.

Reference. Operator Familiarization Course Training Materials for APS.

3. Simulation Training (4 Events, 50.0 Hours)

SIM-430 4.0 T,R L/S Z

Goal. Demonstrate knowledge and proficiency in Integrated Combat Airspace Command and Control.

Requirement. Understand the Integrated Combat Airspace Command and Control System.

Performance Standards. Demonstrate knowledge and proficiency to include:

(1) Mission of the Joint Force Commander.
(2) Airspace control authority (ACA) to include:
    (a) Assignment.
    (b) Responsibilities.
    (c) Integration with sovereign nation's ATC.
(3) Development of the airspace control plan.
(4) Area Air Defense Commander (AADC) to include relationship with the ACA.
(5) Joint Force Air Component Commander (JFACC).
(6) Component commands.
(7) Operation Concept for Integrating Combat Airspace Command and Control to include top-down guidance and direction, modular system, and the delegation of authority to service/functional components.
(8) Function of the Joint Airspace Control Center/Joint Air Defense Center (JACC/JADC).
(9) Airspace control boundaries to include, airspace control area, airspace control sector.
(10) Airspace control plan and airspace control order.
(11) Aerial air defense plan and tactical operational data.
(12) Air Force Theater Air Control System to include the function of:
    (a) Air Operations Center (AOC).
    (b) Control and Reporting Center (CRC).
    (c) Forward Reporting Post.
    (d) Modular Control Equipment.
    (e) Air Support Operation Center (ASOC).
    (f) Tactical Air Control Party.
    (g) Airborne elements of the ABCCC/AWACS/JSTAR.
(13) Army Airspace Command and Control System to include the function of the Army Air Ground System and Battlefield Coordination Element.

(14) Naval airspace command and control systems to include composite warfare commander concept, delegation of authority, CWC coordinating staff, and integration with air defense.
(15) Agencies with which the MACCS will interface.
(16) TADIL interface capabilities between all platforms and agencies between the participating services.

Prerequisite. FAM-209.

Reference. Joint Pub 3-56.1 Tactical Command and Control Planning Guidance Procedures for Joint Operations.

SIM-431 32.0 T,R L/S Z

Goal. Demonstrate knowledge and proficiency in an MATCD planning problem.

Requirement. Successfully deploy an ATC detachment, to include all ATC and maintenance assets.

Performance Standards. Demonstrate knowledge and proficiency to include:

(1) Initial planning conference.
(2) Simulate procedures to schedule a flight check.
(3) Site selection.
(4) Determine defensive posture.
(5) Schedule follow-on planning conferences.
(6) Publish an LOI.
(7) Develop Marine Simulation Event List (MSEL), if applicable.
(8) Develop a communication plan to include:
    (a) Frequency request for radars, NAVAIDS, and radios.
    (b) Telephone line request.
(9) Maintenance/supply support.
(10) Plan logistical support to include:
    (a) Advanced/main body arrival dates.
    (b) Advanced/main body retrograde dates.
    (c) Medical support.
    (d) Messing facilities.
    (e) Quarters.
    (f) Administrative support.
(11) After action reports (MCLLS) and debrief items.
(12) Tactical Aircraft Mission Planning System (TAMPS).
(13) TBMCS.
(14) Successfully plan the employment of a MATCD in a MACCS training evolution, including all the above listed requirements. The actual employment may be either real or notional.

Prerequisite. FAM-214, FAM-216, FAM-217, SYS-257, FAM-301, and FAM-315.

Reference. MATCD SOP and MCWP 3-25.8.

External Syllabus Support. MACCS training/operational event.

SIM-432 4.0 T,R L/S Z

Goal. Demonstrate knowledge and proficiency in the planning, execution and debrief of a simulated exercise.

Requirement. Demonstrate knowledge and proficiency in the planning, execution and debrief of MACCS Integrated Systems Training Exercise (MISTEX), Joint Services Tactical Exercise (JSTE), or Naval Expeditionary Force Exercise (NEFEX).

Performance Standards. Perform a MACCS Integrated Systems Training Exercise (MISTEX), Joint Services Tactical Exercise (JSTE), or Naval Expeditionary Force Exercise (NEFEX) utilizing the following:

(1) TBMCS.
(2) Utilize the CAFMS and APS systems in TBMCS.
(3) TAMPS.

Prerequisite. FAM-220, FAM-313, FAM-415, and SYS-257.

SIM-433 10.0 T,R S Z

Goal. Demonstrate knowledge and proficiency to execute the fundamental principles of rear area security planning.

Requirement. Design and implement a rear area security plan for the MATCD.

Performance Standards. With the aid of references, successfully apply the concepts and terminology common to the conduct of rear area security operations to include:

(1) Know the fundamentals and interrelationships between:
    (a) Combat Service Support Operations Center (CSSOC).
    (b) Rear Area Operations Center (RAOC).
    (c) Tactical Security Officer (TSO).
    (d) Assistant TSO (ATSO).
    (e) Patrol Leader (PL).
    (f) Roving Patrol/Reaction Team.
    (g) Sentry Posts (SPs).
    (h) Observation Posts (OPs).
    (i) Listening Posts (LPs).
(2) Plan for and be prepared to execute passive and active security measures for a MATCD based on current threat assessments given minimum reliance on the GCE and RAS effort is proportionate to the threat:
    (a) Identify passive measures.
    (b) Dispersion and camouflage.
    (c) Hardening of sites and installations.
    (d) Establishment of defensive plans and positions to include appropriate local barriers and obstacles and fire plans.
(3) Positioning of rear area organizations for mutual support.
    (a) Identify active measures.

(b) Patrol and establish OPs, LPs, security check points, and other local security measures.
(c) Convoy security.
(d) Position any available air and anti-mechanical defenses within the rear area.
(e) Provide defensive fire plans to the RASC.
(f) Establish and coordinate security and security reaction forces within rear area units and geographical rear area zones.
(g) Establish defensive plans and positions to include appropriate local barriers and obstacles and fire plans.
(h) Train all Marines in basic infantry skills to include anti-armor and air defense.

(4) Account for general contingencies:
(a) Enemy snipers.
(b) Enemy snipers may fire from one point, but be prepared for multiple firing points.
(c) The Patrol Leader of the Roving Patrol/Reaction Team should first determine likely firing points.
(d) During the contact period explain the immediate actions to be taken.
(e) React quickly, identify likely firing position and return fire.
(f) Give a report to the TSO or ATSO.
(g) Set-up flanking points.
(h) Maintain visual contact with sniper but do not approach area previously held by the sniper (booby traps).
(i) Cover possible withdrawal areas.
(j) During the immediate follow-up period, explain immediate actions to be taken.
(k) Isolate and cordon off the area where possible.
(l) Find a position to brief on-coming leader.

(5) Develop procedures for Mob Control:
(a) The presence of a crowd may be planned or may develop into a spontaneous emotional eruption.
(b) If planned, its purpose is to degrade security.
(c) Mob action is characterized by emotion and violent action and can be highly contagious.
(d) Quickly restore order with minimum use of force while ensuring a safe escape route for the mob.

Reference. Joint Pub 1, Joint Warfare of the US Armed Forces and FMFM 6-5, Marine Rifle Squad.

4. Operations Training (10 Events, 474 Hours)

OPS-440 40.0 T,R L Z

Goal. Develop an instrument approach.

Requirement. Research, develop, and submit for approval an instrument approach procedure.

Performance Standards. With the aid of references, develop a minimum of two instrument approaches (precision/non-precision)

for each NAVAID/radar system assigned to a MCAS or MATCD using Terminal Instrument Procedures (TERPS) and process it for DOD approval and publication.

Prerequisite. MATCALS Advanced Operator Course (N2473H1), FAM-303, and FAM-341.

Reference. FAA Handbook OAP 8200.1, U.S. Standard Flight Inspection Manual and TERPS Manual.

OPS-441 20.0 T,R S/L Z

Goal. Develop Emission Control (EMCON) and Radar Emissions Control (RADCON) plans for an MATCD.

Requirement. Develop and implement an EMCON and RADCON plan for the MATCD.

Performance Standards. Demonstrate knowledge and proficiency to:

(1) Develop EMCON and RADCON plans for each NAVAID/radar system listed:
    (a) AN/TRN-44, TACAN.
    (b) AN/TPN-30, Marine Remote Area Approach Landing System.
    (c) AN/TSQ 131(V), Control and Communication Subsystem.
    (d) AN/TPN-22, All-Weather Landing Subsystem.
    (e) AN/TPS-73, Surveillance radar.
(2) Demonstrate the MATCD ability to reduce its vulnerability as part of an integrated air defense system to an ECM/SAM threat while employing the above listed equipment.
(3) Demonstrate knowledge of EMCON/RADCON on ATC operations.
(4) Develop EMCON procedures for MATCD support of a MACCS training evolution.

Prerequisite. FAM-218, FAM-306, and OPS-343.

Reference. MACS EW (U) (#01205) MAWTS-1 ASP.

External Syllabus Support. EA-6B.

OPS-442 96.0 T,R L/S Z

Goal. Perform as an ATC Liaison Officer.

Requirement. Provide liaison with other military/civil ATC agencies and other MACCS and aviation units.

Performance Standards. Perform ATC liaison duties during a MACCS exercise/ SIMEX, or as appropriate, demonstrate knowledge of ATC responsibilities and duties to other MACCS or civilian ATC agencies.

Prerequisite. CK-280, CK-281, OPS-344, and OPS-345.

External Syllabus Support. Operational MACCS agencies or appropriate civilian ATC agency.

OPS-443 172.0 T,R L/S Z

Goal. Perform as a member of the ACE planning staff.

Requirement. In a tactical exercise, assist in the planning and airspace management for a MEU, MEB, MEF, or Special Purpose MAGTF.

Performance Standards. Assist in planning airspace management during an exercise/operation.

Prerequisite. OPS-344, OPS-345, and QUAL-390.

OPS-444 10.0 T,R L/S Z

Goal. Execute the fundamental principles of theater missile and air defense planning.

Requirement. With the aid of references, apply the concepts and terminology common to the integration of joint assets into a theater missile and air defense system. Identify who is responsible for conducting theater missile and air defense, specific responsibilities, missile and air defense agencies of joint forces and considerations for employment to include:

(1) Know who is normally appointed the Area Air Defense Commander (AADC).
    (a) Identify criteria used to normally appoint the AADC.
    (b) Identify which components will normally be designated the theater AADC.
    (c) Know the basic responsibilities of the AADC.
    (d) Identify the AADC basic responsibilities.
(2) Know the Theater Missile and Air Ground defense agencies and their functions:
    (a) Given a Theater Air Ground System air defense agency, select its air defense function.
    (b) Identify the objectives of Theater Missile Defense (TMD).
    (c) Identify the four operational elements of TMD.

Performance Standards. Pass a written exam with a minimum score of 80%.

Prerequisite. ACC Joint Air Operations Staff Course (F19L2W2).

External Syllabus Support. MACCS MISTEX or operational joint environment.

OPS-445 10.0 T,R L Z

Goal. Execute the fundamental principles of Joint Combat Airspace Doctrine, Organizations and Procedures.

Requirement. With the aid of references, apply airspace control doctrine from the Joint, Multi-Service, and Single Service perspective. Know the specific responsibilities and duties of the Joint Force Commander (JFC) and Airspace Control Authority (ACA), and how to develop the Airspace Control Plan (ACP) and the Airspace Control Order (ACO) to include:

(1) Know the JFC and ACA airspace control responsibilities:
    (a) Select the JFC's airspace control responsibilities.
    (b) Identify the ACA's responsibilities.
(2) Know the fundamentals of airspace control:
    (a) Identify the primary goal or purpose of airspace control.
    (b) Describe the use of airspace by all components.
(3) Know the organization, functions and responsibilities of the command and control elements of a joint force airspace control system. Identify the four basic functional activities that airspace command and control elements perform.
(4) Know and identify the different methods of airspace control.
(5) Know and identify the five jointly agreed procedural airspace control measures.

Performance Standards. Pass a written exam with a minimum score of 80%.

Prerequisite. ACC Joint Air Operations Staff Course (F19L2W2).

Reference. Joint Pub 3-52, Joint Pub 3-56.1, Joint Pub 5-00.2, ICAC2 Multi-service Procedures for Integrating Airspace Command and Control in the Combat Zone, and FM 100-103-2.

External Syllabus Support. MACCS MISTEX or operational joint environment.

OPS-446 10.0 T,R L/S Z

Goal. Execute the phases, inputs, processes, and outputs of the ATO cycle.

Requirement. With the aid of references, participate in the phases, inputs, processes of building and executing an ATO to include:

(1) Understand the process of building an ATO:
    (a) List, in order, the five phases of the ATO cycle that normally relate to ATO development in a typical Joint Air Operations Center (JAOC) Combat Plans.
(2) Understand the relationship of inputs and outputs, match them with the appropriate phases of a single ATO cycle:
    (a) Identify the key inputs and outputs of a single ATO cycle.
    (b) Identify the outputs of a single ATO as inputs to the appropriate phase of a future ATO.

Performance Standards. Pass a written exam with a minimum score of 80%.

Prerequisite. ACC Joint Air Operations Staff Course (F19L2W2).

Reference. Joint Pub 3-56.1, CJCS Manual 6120.05 (formerly Joint Pub 3-56.24), Tactical Command and Control Planning Guidance for Joint Operations, Joint Pub 5-03.1.

External Syllabus Support. MACCS MISTEX or operational joint environment.

OPS-447 10.0 T,R L/S Z

Goal. Develop the Airspace Control Plan (ACP) for joint combat operations.

Requirement. Aid in the development of an ACP in support of an operation/exercise.

Performance Standards. With the aid of references, write the theater ACP providing airspace control procedures for airspace users, operations planners, and airspace control personnel to include:

(1) Comprehend the planning considerations in designating BDZs and comprehend how to develop and apply BDZ departure and recovery procedures when writing an ACP:
    (a) Identify those factors that would be considered in developing BDZ departure and recovery procedures.
    (b) Designate which air bases in the Area of Responsibility (AOR) will have BDZs and develop departure and recovery procedures.
(2) Comprehend the parameters necessary to have an effective method of getting friendly aircraft through friendly air defense areas and apply them when writing an ACP.
(3) Identify parameters that are used for developing Minimum Risk Routes (MRRs).
(4) Comprehend and apply the planning considerations in designating a coordinating altitude.
(5) Identify parameters that are used in developing coordinating altitude.

Prerequisite. ACC Joint Air Operations Staff Course (F19L2W2).

Reference. Joint Pub 3-52, FMFRP 5-61, ICAC2 Multi-service Procedures for Integrating Airspace Command and Control in the Combat Zone, and FM 100-103-2.

External Syllabus Support. MACCS MISTEX or operational joint environment.

OPS-448 10.0 T,R L/S Z

Goal. Develop the ACO for joint combat operations.

Requirement. Create an ACO, utilizing information provided by higher headquarters.

Performance Standards. With the aid of references, write the theater ACO employing Airspace Control Measures (ACMs), Fire Support Coordination Measures (FSCMs), Air Defense Procedures, and standard procedures and graphics to include:

(1) Know airspace user requirements and major factors to consider when deconflicting combat airspace requirements.
(2) Identify major factors to consider when deconflicting airspace requirements.
(3) Know the various airspace user requirements for each service.

Prerequisite. MCCDC Course Identifier F19L2W2 ACC Joint Air Operations Staff Course.

Reference. Joint Pub 3-52, FMFRP 5-61, ICAC2 Multi-service Procedures For Integrating Airspace Command and Control in the Combat Zone, and FM 100-103-2.

External Syllabus Support. MACCS MISTEX or operational joint environment.

OPS-449 96.0 T,R L Z

Goal. Perform in an operational billet in the TACC.

Requirement. In a field environment, integrate and operate as a member of a crew in a TACC.

Performance Standards. Perform the following:

(1) Utilize the TBMCS.
(2) Fill appropriate TACC billet.

Reference. MCWP 3-25.4.

140. INSTRUCTOR QUALIFICATION TRAINING

1. Purpose. This POI is to be completed prior to designation as an instructor in a particular stage of training; i.e., MMT Leader Instructor, WTI, etc. Syllabus requirements are designated as Designations (DESG).

a. Prerequisite. The controller must be experienced enough to be able to instruct others in the ATC leadership and supervisory functions of this syllabus.

b. Academic Training. None.

c. Live and Simulator Event Training (2 Events, 640 Hours)

2. Instructor Qualification Training

DESG-500 240.0 T,E

Goal. Be designated an MMT Leader Instructor.

Requirement. Perform the duties of an MMT Leader Instructor.

Performance Standards. Graduate the MEWTI Course and be certified by MAWTS-1 to be an MMT Leader Instructor.

Prerequisite. DESG-390.

Reference. TEMINS orders to MAWTS-1 for the Marine Enlisted WTI school.

QUAL-501 400.0 T/E

Goal. Weapons Tactics Instructor (WTI).

Requirement. Perform the duties of a WTI.

Performance Standards. Graduate the WTI Course and be certified by MAWTS-1 to be a WTI.

Prerequisite. None.

Reference. MAWTS Course Catalog.

External Syllabus Support. TEMINS orders to MAWTS-1 as an enlisted WTI student.

160. EXPENDABLE ORDNANCE REQUIREMENTS. None.

170. PROFICIENCY INTERVALS. Table 1-16, 1-17, and 1-18 contain the proficiency intervals for the Combat Ready, Combat Qualification, and Full Combat Qualification levels.

Table 1-16.--ATCO Proficiency Interval for the Combat Readiness Training Level.

STAGE/EVENT	HOURS	PROFICIENCY INTERVAL (Months)	CRP	T	C	R	E	CONDITIONS & REMARKS
KFAM-200	2.0	0	0	X		X		
KFAM-201	2.0	0	0	X		X		
KFAM-202	5.0	0	0	X				
KFAM-203	2.0	0	0	X				
KFAM-204	2.0	0	0	X				
KFAM-205	2.0	0	0	X				
KFAM-206	2.0	0	0	X				
KFAM-207	2.0	0	0	X				
KFAM-208	2.0	0	0	X				
KFAM-209	2.0	24	0	X				
KFAM-210	2.0	24	0	X				
KRFC-230	2.0	0	0	X				

STAGE/EVENT	HOURS	PROFICIENCY INTERVAL (Months)	CRP	T	C	R	E	CONDITIONS & REMARKS
KRFC-231	2.0	0	0	X				
KRFC-232	2.0	0	0	X				
KRFC-233	2.0	0	0	X				
KTGC-240	2.0	0	0	X				
KTGC-241	2.0	0	0	X				
KTGC-242	2.0	0	0	X				
KTGC-243	2.0	0	0	X				
FAM-211	2.0	36	0.3	X		X		L
FAM-212	2.0	36	0.3	X		X		L
FAM-213	5.0	24	0.3	X		X		L/S
FAM-214	2.0	36	0.3	X		X		L
FAM-215	3.0	24	0.3	X		X		L
FAM-216	2.0	36	0.3	X		X		L
FAM-217	2.0	36	0.3	X		X		L
FAM-218	2.0	24	0.3	X		X		L
FAM-219	2.0	24	0.3	X		X		L
FAM-220	2.0	24	0.3	X		X		L
SYS-250	40.0	0	0.5	X				S
SYS-251	40.0	0	0.5	X				S
SYS-252	40.0	24	0.6	X		X		L/S
SYS-253	5.0	24	0.6	X		X		L/S
SYS-254	8.0	0	0.5	X		X		L/S
SYS-255	5.0	36	0.6	X		X		L/S
SYS-256	5.0	0	0.5	X		X		L/S
SYS-257	6.0	36	0.5	X		X		L/S
SYS-258	5.0	0	0.5	X		X		L/S
SIM-260	10.0	0	0.7	X				S
OPS-270	30.0	0	0.5	X				L
OPS-271	30.0	0	0.5	X				L
OPS-272	2.0	24	0.5	X		X		L/S
CK-280	2.0	0	2.5	X			X	L
CK-281	2.0	0	2.5	X			X	L

Table 1-17.--ATCO Proficiency Interval for the Combat Qualification Training Level.

STAGE/EVENT	HOURS	PROFICIENCY INTERVAL (Months)	CRP	T	C	R	E	CONDITIONS & REMARKS
FAM-300	2.0	12	0.5	X		X		L
FAM-301	4.0	24	0.5	X		X		L/S
FAM-302	2.0	24	0.5	X		X		L
FAM-303	2.0	24	0.5	X		X		L/S
FAM-304	2.0	36	0.5	X		X		L
FAM-305	3.0	24	0.5	X		X		L/S
FAM-306	2.0	24	0.5	X		X		L
FAM-307	2.0	24	0.5	X		X		L
FAM-308	2.0	24	0.5	X		X		L
FAM-309	2.0	24	0.5	X		X		L
FAM-310	2.0	24	0.5	X		X		L
FAM-311	2.0	24	0.5	X		X		L
FAM-312	2.0	24	0.5	X		X		L
FAM-313	4.0	24	0.5	X		X		L
FAM-314	4.0	24	0.5	X		X		L
FAM-315	6.0	24	0.5	X		X		L/S

STAGE/EVENT	HOURS	PROFICIENCY INTERVAL (Months)	CRP	T	C	R	E	CONDITIONS & REMARKS
FAM-316	2.0	24	0.5	X		X		L
SYS-320	16.0	36	0.5	X		X		L/S
SYS-321	6.0	24	1.0	X		X		L/S
SIM-330	20.0	36	1.0	X		X		L/S
SIM-331	20.0	24	1.0	X		X		L/S
SIM-332	8.0	24	1.0	X		X		S
OPS-340	2.0	36	0.5	X		X		S/L
OPS-341	10.0	24	0.5	X		X		L/S
OPS-342	N/A	0	1.0	X		X		L
OPS-343	4.0	24	1.0	X		X		S/L
OPS-344	8.0	0	1.0	X		X		L
OPS-345	N/A	0	1.0	X		X		L
OPS-346	24.0	36	1.0	X		X		L
OPS-347	24.0	24	1.0	X		X		L/S

Table 1-18.--ATCO Proficiency Interval for the Full Combat Qualification Training Level.

STAGE/EVENT	HOURS	PROFICIENCY INTERVAL (Months)	CRP	T	C	R	E	CONDITIONS & REMARKS
FAM-400	2.0	24	0.1	X		X		L
FAM-401	2.0	24	0.1	X		X		L
FAM-402	2.0	24	0.1	X		X		L
FAM-403	2.0	24	0.1	X		X		L
FAM-404	4.0	24	0.1	X		X		L
FAM-405	4.0	24	0.1	X		X		L
FAM-406	2.0	24	0.1	X		X		L
FAM-407	2.0	24	0.1	X		X		L
FAM-408	4.0	24	0.1	X		X		L
FAM-409	2.0	24	0.1	X		X		L
FAM-410	4.0	24	0.1	X		X		L
SIM-430	4.0	36	0.2	X		X		L/S
SIM-431	32.0	24	0.2	X		X		L/S
SIM-432	4.0	32	0.2	X		X		L/S
SIM-433	10.0	36	0.2	X		X		S
OPS-440	40.0	0	0.3	X		X		L
OPS-441	20.0	36	0.3	X		X		S/L
OPS-442	96.0	0	0.3	X		X		L/S
OPS-443	172.0	0	0.3	X		X		L/S
OPS-444	10.0	36	0.3	X		X		L/S
OPS-445	10.0	36	0.3	X		X		L
OPS-446	10.0	0	0.3	X		X		L/S
OPS-447	10.0	0	0.3	X		X		L/S
OPS-448	10.0	0	0.3	X		X		L/S
OPS-449	96.0	36	0.4	X		X		L

180. ATCO EVENT UPDATE CHAINING. Table 1-19 contains the ATCO event update chaining.

Table 1-19.--ATCO Event Update Chaining.

EVENTS	EVENTS UPDATED
200	
201	200
203	
204	
205	
206	
207	
208	
209	
210	
211	
212	
213	
214	212
215	
216	212, 214
217	214, 216
218	
219	
220	
230	
231	
232	
233	
240	
241	
242	
243	
250	
251	
252	
253	
254	
255	
256	
257	
260	
270	250
271	251
272	213, 253
280	250, 270
281	251, 271
300	
301	
302	
303	
304	
305	209
306	
307	219, 255
308	
309	
310	
311	
312	
313	220

EVENTS	EVENTS UPDATED
314	
320	254, 260
321	220, 313
330	212, 301
331	
332	
340	200, 201
341	303
342	200, 201, 208, 209
343	218, 306
344	201, 212, 213, 302, 340
345	201, 212, 213, 302, 330, 340, 344
346	
347	220, 255, 307, 308
400	
401	
402	311, 312
403	218
404	219
405	219, 404
406	
407	
408	
409	316
410	220, 313
430	305
431	214, 300, 302, 315, 330
432	220, 313, 410
433	
440	
441	306, 343
442	
443	
444	
445	
446	305
447	346
448	305
449	